

OPPORTUNITIES TO PROTECT INSTREAM FLOWS AND WETLAND USES OF WATER IN CALIFORNIA



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OPPORTUNITIES TO PROTECT INSTREAM FLOWS AND
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PREFACE

The National Ecology Research Center and its predecessor, the Western Energy and Land Use Team, have published a number of documents similar to this one in the past. Information is now available for 31 Western, Midwestern, and Southern States (list inside front cover).

The primary purpose of this series of documents is to point out the opportunities in instream flow management that currently exist under State law, so that planners and managers can anticipate development, plan appropriate programs, and evaluate the costs and benefits of certain courses of action. In addition, the reports are brief histories of the level of success of various State programs. The use of this information can result in a significant cost saving for planners and managers.

In some reports, opportunities in each State are presented in a single document, but in several publications, reports on two or more States are combined. The complete list of reports in this series is displayed inside the front cover. The combinations of State reports facilitates comparison of specific programs. This is particularly useful because of the wide variety of instream flow protection programs or possibilities.

Each document has an Introduction that discusses its purpose, uses, and limitations, and a separate information table that summarizes the contents for each State. The research represented in these reports provides an overview and preliminary evaluation that will help Federal, State, or local planners and managers meet their increasingly complex responsibilities.

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ACRONYMS AND ABBREVIATIONS

The following is a list of acronyms and abbreviations used in this report.

BCDC	- San Francisco Bay Conservation and Development Commission
Board	- State Water Resources Control Board
Bureau	- United States Bureau of Reclamation
CESA	- California Endangered Species Act
CEQA	- California Environmental Quality Act
Commission	- California Fish and Game Commission
Corps	- United States Army Corps of Engineers
CVP	- Central Valley Project
DFG	- California Department of Fish and Game
DWR	- California Department of Water Resources
EBMUD	- East Bay Municipal Utility District
FERC	- Federal Energy Regulatory Commission
IBUA	- Instream Beneficial Use Assessment
SWP	- State Water Project

INTRODUCTION

OBJECTIVES

This document combines the efforts of several individuals, agencies, and organizations toward a common objective: the identification, description, and preliminary evaluation of promising opportunities for protecting instream uses of water under existing laws in California.

This report is intended for the use of State and Federal planning and management personnel who need an overview of potential opportunities for preserving instream flows. It is not intended to replace or challenge the advice of agency counsel, nor is it written to provide legal advice. Instead, it is designed as a guide for the person trying to make his or her way among sometimes bewildering State statutes and administrative practices. This report is not, and should not be taken as, official policy or prediction of future actions by any agency. It is simply a summary of some potential opportunities for protecting instream uses.

Toward these objectives, the U.S. Fish and Wildlife Service, through its Water Resources Analysis Project, contracted in 1977 with Richard Dewsnap and Dallin Jensen to identify available strategies under State and Federal laws, interstate compacts, and water quality laws. A second firm, Enviro Control, Inc., was contracted to evaluate the most promising strategies. The resulting documents reported Instream Flow Strategies for 11 States. These reports have been revised, updated, and combined in a number of new monographs (see inside cover for a list of both "strategies" and updated monographs). In addition, the Service has, over the years, added more States to this series. Discussion of instream flow programs and opportunities for each State is written so that each report can be read independently, with minimal cross-referencing from one State report to another. The opportunities for California are summarized in Table 1.

BACKGROUND CONSIDERATIONS

Both State and Federal agencies have important roles to play in water management, particularly in instream flow preservation. This report is written from the perspective that the States have primary authority over water management, unless they are limited or superceded by an act of Congress or duly authorized Federal program or project.

The summaries offered here are not intended to suggest that Federal instream flow decisions will or should replace current State water administration or management systems. It is important for Federal employees to recognize the

importance of State water management policy and statutes. A close working relationship between State and Federal agencies is often the most practical way of getting things accomplished. Resources are always limited and, in some cases, gathering and developing information may be beyond the financial power of the agency most concerned. As a result, agencies and individuals should learn to cooperate with similarly oriented private, State, and Federal organizations to ensure success.

The reader who wishes to understand opportunities for protection of an instream flow and wetlands should begin by looking at the physical and legal circumstances of the entire stream or waterbody. A planner or manager should consider all types of land and water interests involved. The stream should be examined both upstream and downstream of the reach of interest. Downstream interests should be considered because often they have statutory or contractual power to hold water instream. This survey should include ownership, possession, and control of lands and waters, and their present uses, such as agriculture, planned development, wilderness, or industry.

It is important to remember that contracts or leases may be held by several organizations and individuals. In addition, government agencies may have authority over the land and water. Potential governing agencies are many and diverse, ranging from the Federal Government to special districts and municipal bodies. Therefore, a knowledge of the various instream flow and wetlands opportunities is important.

Instream flow problems may include appropriation conflicts, lack of flow, or administrative difficulties. When possible, the planner or manager should seek the least expensive, least disruptive, and simplest solution to the problem. In some cases, this may mean having a conversation with a landowner or local administrator, sending a letter to the owner or lessee of the land and water, or simply arranging a meeting between water users who could stagger their withdrawals or, in some other way, provide for an instream flow. However, these are informal methods and offer no legal protection, so their usefulness is limited to those situations in which voluntary arrangements are acceptable.

Offering information on streamflow needs to other agencies of State or Federal governments is complex and is often covered by specific statutes. A risky, complex, and often expensive approach to protecting streams is the use of lawsuits. In some cases, litigation may be an unavoidable part of protecting a right.

In using this report, the reader should be aware of its purpose and limitations. First, only a few of many possible opportunities are described. The user should exercise initiative, judgment, and creativity in dealing with any specific situation. Second, this report should be used only as a starting point. In any situation related to the acquisition of water rights, legal advice should be sought. This report should in no way be construed as a substitute for the opinion of a private attorney, attorney general, or agency counsel. Third, this report is neither a policy nor a decision document; it is simply a collection of opportunities that appear to have utility in a variety of situations.

The purpose of this report is to encourage cooperative and innovative thinking by all persons interested in instream flows for fish, wildlife, and watershed management at Federal, State, or local levels of government, as well as private individuals and wildlife organizations. Many talented people want to protect instream flows; their cooperation in a variety of approaches will be necessary to further this goal.

Table 1. Summary of opportunities to protect instream flows and wetland uses of water in California.

Title	General description	Applicable situations
Riparian rights (see page 17)	A riparian landowner may make reasonable use of water for wildlife enhancement [<u>In re Waters of Hallett Creek Stream System</u> , 44 Cal. 3d 448 (1988)].	National Forests have unexercised riparian rights in federally reserved lands for wildlife enhancement purposes.
Water unavailable for appropriation (see page 21)	A declaration that a stream is being fully applied to beneficial uses prohibits further appropriations (Cal. Water Code §§ 1205-1207).	The Board can declare that a stream is being fully applied after considering the needs of all beneficial uses, including instream flows.
Conditions imposed on water rights permits and licenses (see page 21)	The appropriation of water for beneficial uses is allowed under such terms and conditions that the Board may impose to "best develop, conserve, and utilize in the public interest water sought to be appropriated" (Cal. Water Code § 1253).	The Board is vested with broad discretionary power to prescribe terms and conditions on appropriative water rights. This authority allows permits and licenses to be conditioned to provide instream flows and protect instream uses of water.
Release of stored water (see page 24)	The Board may require a permit applicant to release stored water for the preservation and enhancement of fish and wildlife resources (Cal. Water Code § 1243).	Dept. of Fish & Game may recommend amounts of water needed to protect fish and wildlife resources.

(Continued)

Table 1. (Continued)

Title	General description	Applicable situations
Modification of permit terms and conditions (see page 25)	The Board may reserve jurisdiction over water appropriation permits to modify conditions as necessary to protect instream flows (Cal. Water Code § 1394). The Board may exercise this authority consistent with its public trust obligations [<u>United States v. State Water Resources Control Board</u> , 183 Cal. App. 3d 82 (1986)].	The Board may reexamine water rights permits to protect fish and wildlife resources. DFG studies may indicate that a water project is adversely affecting fisheries. The Board has not only the right but the responsibility to consider past grants of appropriate rights to determine if a higher level of protection is needed.
Constitutional prohibition against waste and unreasonable use (see page 26)	Instream flows and instream uses of water are protected by Constitutional prohibition against unreasonable use, method of use, or method of diversion (Cal. Const. Art. X, Sec. 2).	Unreasonable methods of diversion may be prohibited if fish and wildlife resources are adversely affected.
Groundwater (see page 29)	Groundwater users may appropriate surface water supplies to replenish groundwater basins under certain circumstances (Cal. Water Code § 1005.1).	The Board must determine if such an appropriation is in the public interest and may condition such uses to protect instream flows.
Common law navigational servitudes (see page 29)	The State holds all the the navigable waters and lands beneath them in trust for the public. Members of the public have the right to navigate waters capable	A public interest in the use of navigable waters for recreational purposes exists between the high and low mark on all navigable waters of the State.

(Continued)

Table 1. (Continued)

Title	General description	Applicable situations
California Environmental Quality Act (see page 31)	<p>of floating pleasure crafts [<u>People ex rel. Baker v. Mack</u>, 19 Cal. App. 3d 1040 (1971)].</p> <p>Overall impacts to the environment of proposed water projects must be considered so that adverse effects are avoided or mitigated whenever feasible (Cal. Pub. Res. Code § 21000 et seq.).</p>	All State agencies must comply with CEQA when proposing or approving projects that would adversely impact fish and wildlife populations.
Water Quality Standards (see page 33)	The Porter-Cologne Water Quality Act protects beneficial uses such as instream flows by preventing water degradation (Cal. Water Code § 13000 et seq.).	The Board and the regional boards formulate water quality plans that protect beneficial uses of water such as the preservation and enhancement of fish and wildlife.
Wild and Scenic rivers (see page 36)	The California (Cal. Pub. Res. Code § 5093.50) and the National (16 U.S.C. § 1271) Wild and Scenic Rivers Acts preserve designated rivers and river segments in their free-flowing state.	Designation of a river or river segment within a wild and scenic river system preserves instream flows by prohibiting new stream diversions and impoundments on the designated river or segment. Rivers nominated for inclusion into the systems require similar protection during study.

(Continued)

Table 1. (Continued)

Title	General description	Applicable situations
Hydropower: pollution certification (see page 39)	Construction of hydropower projects must be certified by the State to insure compliance with State and Federal pollution standards (Porter-Cologne Water Quality Act, Cal. Water Code § 13000 et seq.).	The Board and the regional boards may condition certification of hydropower projects on the maintenance of instream flows.
Hydropower: small project permits (see page 41)	Small hydropower projects must prepare an Instream Beneficial Use Assessment (IBUA) (Cal. Water Code § 106.7).	The preparation of an IBUA determines if unappropriated water is available and evaluates project effects on existing instream beneficial uses.
Dredge and fill permits (see page 42)	The discharge of dredged or fill materials into navigable waters is prohibited without a permit (16 U.S.C. § 1344; Cal. Water Code § 13376).	A 404 permit is required for dam construction and before wetlands can be dredged or filled. Conditions may be placed on the permit to protect instream flows and fish and wildlife resources.
Stream evaluation program (see page 44)	DFG can establish proposed instream flow requirements necessary to protect fish and wildlife resources (Cal. Fish & Game Code § 10000).	Proposed instream flow requirements established by DFG are to be considered by the Board when it imposes on permits and licenses terms and conditions necessary to protect fish and wildlife.

(Continued)

Table 1. (Continued)

Title	General description	Applicable situations
Stream and streambed alteration (see page 45)	Any activity that alters the stream or streambed by means of substantial diversion or obstruction of the natural flow is subject to modification by DFG (Cal. Fish & Game Code § 1600 et seq.).	Whenever a State agency, public utility, or private person undertakes an activity that obstructs or diverts the natural flow of a stream they must submit the construction plan to DFG subject to modification to protect fish and wildlife resources. Negotiation of inclusion of DFG's proposal is subject to binding arbitration.
Water passage through fishways (see page 47)	The owner of a dam must allow sufficient water to pass through a dam or fishway to keep in good condition any fish that may exist below the dam (Cal. Fish & Game Code § 5937).	DFG inspects all dams on all rivers and may specify that a fishway be provided if there is not free passage for fish. The Board conditions permits to require the release of sufficient water to pass through a fishway.
California Endangered Species Act (see page 49)	Water development projects that jeopardize threatened or endangered species or adversely modify their habitats are required to minimize adverse impacts (Cal. Fish & Game Code § 2050).	A petition to add a species to a list of endangered or threatened species, if successful, would prohibit activities of water projects that would result in a taking of the listed species.

(Continued)

Table 1. (Continued)

Title	General description	Applicable situations
Acquisition of land and water, including rights (see page 51)	DFG may acquire land, rights in land, water rights essential to fish and wildlife habitat (Cal. Fish & Game Code § 1300).	Acquisition is done by the Wildlife Conservation Board in the name of DFG. Areas within the State that are essential for wildlife production and preservation are acquired using funds provided by the legislature.
Local and regional plans (see page 53)	City and county planning agencies are to prepare development plans that must include a conservation element (Cal. Gov. Code § 65300).	DFG and DWR may assist planning efforts that seek to conserve, develop, and utilize fish and wildlife resources.
Bay Conservation and Development Commission (see page 54)	Development restrictions and controls in an environmentally sensitive area protect instream flows and wetland uses of water (Cal. Gov. Code § 66600).	BCDC and DFG have made a detailed study of of Suisun Marsh, and have prepared a plan for the orderly and long-range use and conservation of the marsh. Potentially adverse development is regulated by the BCDC permitting process.
Watershed protection and area of origin statutes (see page 56)	A watershed or area where a water supply originates shall not be deprived of the prior right to use water reasonably required to satisfy the beneficial uses of the area.	Area of origin statutes apply to actions by DWR and the Board in acting on applications that would deprive the county of origin water necessary for its

(Continued)

Table 1. (Concluded)

Title	General description	Applicable situations
Wetlands preservation, protection, and enhancement (see page 59)	DFG has an active policy that preserves, protects, restores, and enhances wetlands and associated fish and wildlife resources.	development. The Watershed Protection Act provides that the SWP and CVP shall not deprive a watershed of water reasonably required to satisfy beneficial uses. DFG opposes development projects that result in a net loss of either wetland acreage or wetland habitat values.
Interstate compacts (see page 62)	Interstate compact commissions may be formed to advise in or regulate areas where neighboring States have a common interest in water supplies and quality.	Interstate compacts could include provisions for water quality objectives and instream values.
Private rights of action (see page 64)	Causes of action are found in the common law and in statutes that allow private citizens to abate nuisances that impair instream flows or values.	Private and statutory rights of action may be used to challenge actions that would impair or pollute streamflows.

OPPORTUNITIES TO PROTECT INSTREAM FLOWS AND WETLAND USES OF WATER IN CALIFORNIA

INTRODUCTION

Water law in the State of California presents many opportunities to protect and enhance instream flows and wetlands uses of water, as the protection of instream uses is a matter of State policy. For example, Sections 1243 and 1243.5 of the Water Code provide that the use of water for recreation and preservation and enhancement of fish and wildlife resources is a beneficial use of water that must be considered in the administrative determinations of applications to appropriate water. The Fish and Game Code also declares that the protection and conservation of fish and wildlife resources are of the "utmost public interest," recognizing concurrently the importance of commercial and sport uses together with aesthetic, scientific, and educational uses.

The history of California water development and distribution has been referred to as a story of supply and demand. California is endowed with flowing rivers, countless lakes and streams, and abundant winter rain and snowfall; however, 70% of the streamflow is north of Sacramento, while nearly 80% of the demand for water originates in the arid southern region of the State. The rainfall and runoff from northern snowpack occur in late winter and early spring, while rainfall is at seasonal lows during the summer and fall when water demand is greatest. The available water supply allows water to be diverted from rivers and streams to supply growing cities, develop an extensive industrial base, and irrigate large acreages of farmland.

The Final Report of the Governor's Commission to Review California Water Rights Law (1978) stated that "a well-conceived system for allocating water among instream and offstream beneficial uses would weigh the relative value of competing uses." Further, the report stated that:

The problem is that the available water supply must provide for a broad range of needs and interests, of which the protection of instream uses is but one. The solution to the problem of allocating water among instream and offstream beneficial uses requires the needs of all to be understood and weighed together, and, where feasible, to be reconciled and accommodated without necessarily sacrificing any one beneficial use of water.

Article X, Section 2 of the California Constitution declares that waters of the State must be "put to beneficial use to the fullest extent of which they are capable . . ." and that "the waste or unreasonable use or unreasonable method of use of water be prevented, and the conservation of such waters is to be exercised with a view to the reasonable and beneficial use in the interest

of the people and for the public welfare." Sections 1243 and 1243.5 of the California Water Code declare that instream uses such as recreation and fish and wildlife resource needs are beneficial uses of water. Allocation of water among beneficial instream and offstream consumptive uses is accomplished when the State Water Resources Control Board balances these uses in a manner required by Article X, Section 2.

Historically, instream uses of water in California have included navigation, commerce, stock watering, channel maintenance associated with flushing flows, the generation of hydroelectric power, maintaining water delivery to downstream users, fishing, and recreation. More recently, instream uses of water have been recognized as necessary for the protection and production of aquatic life, the protection and enhancement of wildlife habitat (including riparian vegetation and habitat), the preservation of wild and scenic rivers, aesthetic values, and the expansion of water-based recreation uses. With the possible exception of hydroelectric projects, instream uses can be viewed as those nonconsumptive uses that do not affect water quantity or quality.

The settlement of California has relied heavily on the ability of those seeking development to use the water to their benefit. From the earliest days of the settlement of California, water has been the means for economic growth and development. Holders of Spanish land grants used the available water for ranching. When the goldseekers arrived in California, the development of the mining industry depended on water being used to expose gravel deposits where the gold was found, forming the basis for appropriative water rights. As hydraulic mining flourished, irrigated agriculture was establishing itself as a new and rapidly expanding demand on California's waters. Large amounts of water were required to provide the municipal domestic needs of the populous areas in the southern portions of the State, which began to experience rapid growth. To remedy seasonal and geographic obstacles to the use of water, while providing relief from droughts and floods, the California water projects were conceived and implemented.

Two major water projects exist in California today. The Central Valley Project (CVP) diverts surplus water from the Sacramento, Trinity, and San Joaquin Rivers to the water-deficient areas of the San Joaquin Valley for the benefit of irrigated agriculture. Originally a project conceived by the State, the CVP has been financed and constructed by the Federal Government. The other massive water development project is the State Water Resources Development System, commonly called the State Water Project (SWP), a comprehensive plan for water use. This project stores water in the Feather River Basin. Following its release from storage, the water flows to the Sacramento-San Joaquin Delta where it is then conveyed to the San Francisco Bay area, the San Joaquin Valley, and the Southern California region via the California Aqueduct. Recently, the Bureau of Reclamation and the Department of Water Resources have entered into a cooperative operating agreement (COA). The COA encourages the State and the Bureau to operate the facilities of the SWP and the CVP together in a more efficient manner. As both projects operate side by side in some instances, the COA contemplates the shared use of the Bureau's storage facilities with the SWP's conveyance facilities.

These projects were preceded by the diversion of Colorado River water into the State, first by the All-American Canal to irrigate the Imperial and Coachella Valleys, and then by the Colorado River Aqueduct to the Los Angeles area. Another early water project in the State involved the diversion of water rights in the Owens Valley to Los Angeles and the San Fernando Valley.

California operates under a dual or "hybrid" system of surface water rights that recognizes both the doctrine of riparian rights and rights of appropriation. Under the riparian doctrine water rights are granted to those who own property bordering a natural watercourse, while appropriation means that one can obtain water rights by obtaining a permit to divert water; ownership of adjacent land is not required. The riparian doctrine necessitates coordination among riparian owners on a given watercourse, but the guiding principle for the appropriation system is "first in time is first in right." Therefore, in times of short supply, junior appropriators may be unable to exercise their water rights. Both the riparian and the appropriation doctrines are discussed in more detail in a later section of this report.

Owners of land overlying groundwater that is not flowing in known and definite channels are governed by the doctrine of correlative rights, which establishes that owners of such land are each entitled to a reasonable share of the total groundwater supply. Appropriative rights to groundwater can also be obtained by taking the water and putting it to beneficial use. Presently, all users of water, including groundwater users and surface riparians (riparian landowners) and appropriators, are limited to reasonable methods of diversion and use. The California doctrine has upheld the supremacy of riparian rights, as it is possible for riparians to originate new uses of water, having priority over appropriators just by being a riparian landowner. Whereas an appropriative water right is junior to a riparian right, the appropriative right may be initiated any time water is available for appropriation. Thus, appropriation is also recognized as a legitimate means to acquire rights to the use of water.

Historically, while among themselves riparians were limited to reasonable use, as between appropriators and riparians the riparian users were not limited to reasonable and beneficial uses of the water. Riparians were even able to deprive upstream appropriators of the use of water in a stream by claiming that they were entitled to the full flow of the stream to flood riparian lands. This disparity between riparian and appropriative rights was partially resolved by the enactment of a constitutional amendment in 1928, which established the doctrine of reasonable use as an overriding feature of water law in California. Article X, Section 2 of the California Constitution is the fundamental expression of water policy in the State. It provides that:

It is hereby declared that because of the conditions prevailing in this State the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare. The right to water or to the use or flow of water in or from any natural stream or water course in this

State is and shall be limited to such water as shall be reasonably required for the beneficial use to be served, and such right does not and shall not extend to the waste or unreasonable use or unreasonable method of use or unreasonable method of diversion of water. Riparian rights in a stream or water course attach to, but to no more than so much of the flow thereof as may be required or used consistently with this section, for the purpose for which such lands are, or may be made adaptable, in view of such reasonable and beneficial uses; provided, however, that nothing herein contained shall be construed as depriving any riparian owner of the reasonable use of water of the stream to which the owner's land is riparian under reasonable methods of diversion and use, or as depriving any appropriator of water to which the appropriator is lawfully entitled. This section shall be self-executing, and the Legislature may also enact laws in the furtherance of the policy in this section contained.

The Constitution requires that beneficial uses of water, which includes the protection of instream uses, be maximized, that water be conserved, and that water be diverted and used under the rule of reasonableness, which has been interpreted to apply to all users of water regardless of the legal basis for the water right [Peabody v. City of Vallejo, 2 Cal.2d 351, 40 P.2d 486 (1935)].

Protection and Enhancement of Fish and Wildlife Resources

The protection of instream uses of water is a matter of State policy. Section 1600 of the Fish and Game Code declares that the "protection and conservation of the fish and wildlife resources" of the State are of the "utmost public interest." When deciding whether to issue a permit for unappropriated water, the State Water Resources Control Board (Board) must consider "the amounts of water required for recreation and the preservation and enhancement of fish and wildlife resources" (Cal. Water Code § 1243). Section 1257 of the Water Code instructs the Board, when acting upon applications to appropriate water, to consider the relative benefits of all beneficial uses, including the preservation and enhancement of fish and wildlife and recreational uses. Instream uses are protected by a requirement that the Board "shall take into account, whenever it is in the public interest, the amounts of water needed to remain in the source for protection of beneficial uses" (Cal. Water Code § 1243.5). Also, when acting on applications to appropriate water, the Board considers streamflow requirements as proposed by the Department of Fish and Game (DFG) to protect and enhance fish and wildlife and "may establish such streamflow requirements as it deems necessary" as conditions imposed on permits and licenses to appropriate water (Cal. Water Code § 1257.5).

The major mechanism for protecting instream flows in the State is through existing administrative procedures that preserve and enhance fish and wildlife resources. Indeed, the preservation and enhancement of fish and wildlife resources is strongly equated with the protection and enhancement of instream flows.

STATE AGENCIES WITH JURISDICTION AND AUTHORITY TO REGULATE WATER

State Water Resources Control Board

The State Water Resources Control Board (Board) is charged by statute with the authority to exercise both adjudicatory and regulatory functions of the State in the field of water resources (Cal. Water Code § 174). This authority does not extend to riparian rights and pre-1914 appropriative rights, which are both adjudicated by the courts. The Board consists of five full-time, salaried members who represent the State at large and who are appointed by the Governor (Cal. Water Code § 175). The Board is vested with power and jurisdiction over any law under which permits or licenses to appropriate water are issued, denied, or revoked, or under which the functions of water pollution and water quality control are exercised (Cal. Water Code § 179). By statute, the Board is administratively divided into the Division of Water Rights and the Division of Water Quality (Cal. Water Code § 186).

The Board has the power to administer unappropriated water resources by determining the availability of water for appropriation, issue permits for the appropriation of water (for a specified right or for a trial period), and oversee water quality in conjunction with the Regional Water Quality Control Boards. The Board may also determine the water rights of all users on a stream system, either by a court reference proceeding (Cal. Water Code § 2100 et seq.) or by a statutory adjudication proceeding. (Cal. Water Code § 2500 et seq.). The authority to determine the availability of water for appropriation provides the Board with the ability to protect instream uses of water by balancing competing beneficial uses of the water resources. The ability to protect all nonconsumptive beneficial instream uses is expanded by the control exercised by the Board to condition appropriative permits and licenses. Collectively, these authorities establish the Board as the greatest authority in the allocation and use of water in California.

Regional Water Quality Control Boards

In addition to the Board, nine Regional Water Quality Control Boards (regional boards) have jurisdiction over water quality (Cal. Water Code § 13200). These regional boards share with the State Board the primary responsibility for water quality protection and control. The State Board coordinates the respective activities of each so as to achieve a unified and effective water quality control program in the State (Cal. Water Code § 13001). Composed of nine members appointed by the Governor, each regional board's membership is required to include members who represent a cross section of water interests, including one person from a responsible nongovernmental organization associated with recreation, fish, or wildlife (Cal. Water Code § 13201). The members of the regional boards serve part-time.

The regional boards formulate and adopt water quality control plans for all areas within the region in compliance with Federal and State policies, subject to State Board approval. Objectives are established that will reasonably protect beneficial uses, prevent nuisance, and designate beneficial uses to be protected. Programs are implemented to achieve these objectives (Cal. Water Code §§ 13240-13243). The regional boards provide an administrative

framework to protect instream uses when beneficial uses are determined during the development of the regional water quality control plans.

Department of Water Resources

The Department of Water Resources (DWR) is under control of the Director of Water Resources who is appointed by the Governor (Cal. Water Code § 120). The DWR has jurisdiction over matters concerning water development projects, including the formulation of plans for the control, conservation, protection, and utilization of water resources (Cal. Water Code § 12616). The primary focus of DWR is to develop and operate water supply projects.

DWR is responsible for administering interstate compacts relating to water distribution and use on any interstate stream or water body (Cal. Water Code § 123); regulating and supervising the construction, repair, operation, and maintenance of dams and reservoirs (Cal. Water Code §§ 6000-6501); and operating flood control projects (Cal. Water Code §§ 8300, 8360). DWR is authorized to represent the interests of the State or any county, city, State agency, or public district as to any matter involving the United States within the scope of the powers and duties of the Department (Cal. Water Code §§ 12604). DWR can protect instream flows by recommending that they be incorporated with the needs of water development within the State.

California Water Commission

The California Water Commission consists of nine members appointed for four-year terms by the Governor. The Commission confers with, advises, and makes recommendations to the Director of Water Resources with respect to any matter or subject under the Director's jurisdiction (Cal. Water Code §§ 151, 161). The Commission must approve the rules and regulations of DWR (Cal. Water Code § 161).

The Reclamation Board

The Reclamation Board is responsible for executing flood control plans on the Sacramento and San Joaquin Rivers (Cal. Water Code § 8526). In 1956, the Reclamation Board was placed in the DWR, and its powers and duties were continued, subject to a legislative directive to cooperate to the fullest extent possible with DWR in all matters of mutual concern (Cal. Water Code §§ 8550, 8698). The Reclamation Board must approve every plan of reclamation, flood control, drainage, improvement, dredging, or work that includes any construction or excavation in the bed of, along, or near the banks of the Sacramento or San Joaquin Rivers or their tributaries and overflow basins, before construction begins (Cal. Water Code § 8710). However, the U.S. Army Corps of Engineers can and has overridden the Reclamation Board in dealing with dredge and fill permits within the Corps' area of jurisdiction.

Department of Fish and Game

The Department of Fish and Game (DFG) has wide-ranging responsibilities and duties to protect and enhance fish and wildlife, including recreational and commercial uses of California's fish and wildlife resources. DFG also

participates in the water rights appropriation process by recommending "the amounts of water, if any, required for the preservation and enhancement of fish and wildlife resources" upon notice by the Board of applications to appropriate water (Cal. Water Code §§ 1243, 1243.5).

In addition to its advisory role in the appropriative water rights application process, whenever the natural flow of a stream is diverted or obstructed, DFG must be notified so that it can insure that a proper information base is developed and make recommendations concerning measures necessary to protect fish and wildlife (Cal. Fish and Game Code § 1600). Other duties include proposing modifications or measures to protect existing fish and wildlife resources by requiring the release of impounded water, the provision of fishways for the passage of fish, fish hatcheries, and fish screens (Cal. Fish and Game Code § 5930). The Davis-Dolwig Act requires DWR to consider recommendations made by DFG and others intended to preserve fish, wildlife, and recreation uses in connection with the planning and construction of State water projects (Cal. Water Code § 11910). Other responsibilities of DFG include participating in negotiated agreements for instream protection and purchasing water and water rights to protect and enhance wetlands. Acquisitions are done by the Wildlife Conservation Board, in the name of the DFG.

RIPARIAN RIGHTS

Opportunity

A riparian landowner is entitled to make reasonable use of water from a stream that is adjacent to the riparian land. Such a landowner can preserve instream flows upstream of his place of use by demanding that enough water be delivered downstream to support the riparian use.

Background

The doctrine of riparian rights has great significance in California. In no other Western State has the riparian owner been accorded greater privileges with respect to this water right than in California [1 W. Hutchins, Water Rights Laws in the Nineteen Western States 188 (1974)]. In California, property owners have the right to use water from watercourses adjacent to their property. The riparian owner has a right to the beneficial and reasonable use of water under reasonable methods of diversion (Cal. Const. Art. X, Sec. 2).

The California Supreme Court confirmed and defined the rights of a riparian landowner in Lux v. Haggin [69 Cal. 255, 4 P. 919, 10 P. 674 (1886)]. The Court held that the right of the riparian landowner to the flow of the stream depends on land ownership. "Use does not create the right, and disuse cannot destroy or suspend it" [Lux v. Haggin, supra]. The Court established the principle that the riparian owner is entitled to a reasonable use of water in relation to the reasonable needs of all other riparian owners on the same stream. The right of the riparian owner to the use of the stream allows such owners to enjoin diversions by subsequent appropriators even in the absence of actual harm. An amendment to the California Constitution in 1928 limited riparian rights to the conservation and reasonable beneficial uses of water to

protect the public interest in the utilization of the State's water resources (Cal. Const. Art. X, Sec. 2).

These basic principles of riparian rights may protect upstream instream flows when a riparian landowner claims the right to the flow of the stream in its natural course and condition with respect to both volume and purity. Such claim to use does not mean the right to insist on the full natural flow, and is affected by the reasonable uses of other riparians and appropriators who have perfected prior rights to the use of the water. The doctrine of riparian rights is enforceable only by those who have riparian ownership. These rights have been historically related to the private ownership of riparian lands. However, a recent decision by the California Supreme Court establishes that the doctrine is not limited solely to private owners. In re Water of Hallett Creek Stream System [44 Cal.3d 448, 243 Cal. Rptr. 887 (1988)] affirms the existence of riparian water rights under California law on Federal lands within the State of California. The California Supreme Court also held that such rights are not subordinate or defeasible to all other approved uses [*id.*, 44 Cal.3d 448, 243 Cal. Rptr. at 900].

California operates under a "hybrid" system of water rights, which also recognizes appropriative rights. Some balancing of the different claims for the use of water rights becomes necessary. Although riparian rights cannot be lost by nonuse, such rights may be limited in scope, nature, and priority. In In re Waters of Long Valley Creek System [25 Cal.3d 339, 158 Cal.Rptr. 350 (1979)], the California Supreme Court addressed the issue of how unexercised riparian rights are affected by a statutory adjudication of all water rights on a particular stream system. (The statutory adjudication procedure is found in Sections 2500-2900 of the Water Code.) The Court held that unused riparian rights may be exercised in the future for reasonable and beneficial uses. Such unexercised rights have a lower priority than other rights recognized by the Board to exist either by prior appropriation or riparian usage at the time of the statutory adjudication. By subordinating these dormant riparian rights, the Board can weigh these dormant riparian rights against other competing beneficial uses and provide a means to protect instream flows when the exercise of a dormant riparian right might harm instream uses.

Example

In In re Water of Hallett Creek Stream System [44 Cal.3d 448, 243 Cal. Rptr. 884 (1988)] the Court determined that the United States, in addition to holding Federal reserved water rights under Federal law for primary national forest purposes, also held riparian water rights under California law for secondary national forest purposes. These secondary purposes were for wildlife enhancement within the Plumas National Forest. The United States claimed a riparian right to the use of the waters of Hallett Creek for wildlife enhancement purposes. Relying on the decision of the United States Supreme Court in United States v. New Mexico [438 U.S. 696, 701-702, 98 S.Ct. 3012, 3015 (1978)] the Forest Service sought to claim under State law water for "secondary" forest purposes such as wildlife enhancement. The Court held that this "underlying principle of deference to State law logically extends to any water right recognized under local law--including riparian rights" [In re Water of Hallett Creek, *supra.*, 243 Cal. Rptr. at 893].

The Court also concluded that the riparian rights of the United States on reserved national forests were not a defeasible riparian right subordinate to the rights of subsequent appropriators recognized under California law [id., 243 Cal. Rptr. at 900]. However, the Court held that there were limitations on the unexercised riparian right to the use of the waters in the Hallett Creek Stream System [id., 243 Cal. Rptr. at 900-901]. These limitations would be consistent with the Court's holding in In re Waters of Long Valley Creek Stream System [25 Cal.3d 339, 357-359, 158 Cal. Rptr. 350 (1979)] where the Court stated that, in regard to unexercised riparian rights "The Board may . . . determine that the future riparian right shall have a lower priority than any uses of water it authorizes before the riparian in fact attempts to exercise his right." The Court in Hallett Creek, supra, found that:

The United States must apply to the Board whenever it proposes to exercise its riparian right, so that the Board may evaluate the proposed use in the context of other uses and determine whether the riparian use should be permitted in light of the State's interest in promoting the most efficient and beneficial use of the State's waters [id., 243 Cal. Rptr. at 901].

The United States did not contest the decree that provided for these limitations, and expressly conceded that its riparian right was unexercised and subject to subordination. In light of these limitations, the Court rejected the Board's and several amici curiae's contentions that "recognition of unexercised riparian rights in Federal reserved lands would disrupt the settled rights of appropriators throughout the State and impair the Board's ability to plan and manage the allocation of the State's scarce water supply."

Evaluation

As demonstrated in In Re the Waters of Hallett Creek Stream System, the riparian doctrine provides instream flow protection and provides for fish and wildlife enhancement. As this right is recognized under California law, it must be used reasonably for beneficial purposes. Section 1243 of the Water Code provides that the enhancement of fish and wildlife resources is a beneficial use of water. The recognition of unexercised riparian rights on Federal lands provides an unparalleled opportunity to protect instream flows. Additionally, riparian owners can protect their uses, thereby prohibiting water diversions or impoundments that would diminish instream flows. The enforcement of these rights can be achieved through negotiation, arbitration, or a lawsuit to enjoin the impairment of the rights.

APPROPRIATIVE WATER RIGHTS

Prior to statehood in 1850, California miners developed the custom of diverting and using water on mining claims according to the principle of priority. The establishment of appropriative rights to water was recognized by the California Supreme Court in 1855 [Irwin v. Phillips, 5 Cal. 140 (1855)]. A distinctive feature of appropriative rights, as developed in the mining camps, was the principle of "first in time, first in right." The traditional elements of a valid appropriation are the intent to appropriate water, the actual

diversion of water from or physical control of water in the stream or water-course, and the application of the water to a beneficial use within a reasonable time. As appropriative water rights are obtained by the beneficial use of the water, such rights are lost by nonuse, abandonment, or the failure to put the water to beneficial use. The doctrine provides for the acquisition of rights to use water in accordance with court precedent and under limitations specified by the State Constitution, statutes, court opinions, administrative regulations, and terms and conditions specified in permits and licenses to appropriate water.

In considering applications to appropriate water that is available for appropriation, the Board is required to consider if the application is in the public interest. The Board must reject an application to appropriate water if the proposed appropriation "would not best conserve the public interest" (Cal. Water Code § 1255). The public interest is the primary standard guiding the Board in acting upon applications for unappropriated water [Johnson Rancho County Water Dist. v. State Water Rights Bd., 235 Cal.App. 3d 863, 45 Cal. Rptr. 589, (1965)]. In determining what is the public interest, the Board is to consider three factors: general water resource plans, the relative benefit of all beneficial uses, and existing and future water quality control plans.

First, the Board is to "give consideration to any general or coordinated plan looking toward the control, protection, development, utilization and conservation of the water resources of the State" (Cal. Water Code § 1256). The Legislature has declared that the "preservation of fish and wildlife resources be provided for in connection with the construction of State water projects" (Cal. Water Code § 11900). Such provisions also apply to the CVP, "every other project constructed by the State itself and in cooperation with the United States" (Cal. Water Code § 11905), and to flood control and watershed projects (Cal. Water Code § 12841).

Second, the Board must consider the relative benefit of "all beneficial uses of the water concerned including, but not limited to, use for domestic, irrigation, municipal, industrial, preservation and enhancement of fish and wildlife, recreational, mining, and power purposes, and any uses specified to be protected in any relevant water quality control plan" (Cal. Water Code § 1257). The Board must consider fish and wildlife and recreational uses along with consumptive uses when evaluating an application to appropriate water. The Board may reject an application to appropriate water after weighing the relative benefit of competing uses, and must reject such an application "when in its judgment the proposed appropriation would not best conserve the public interest" (Cal. Water Code § 1255).

Third, the Board must consider water quality control plans adopted by the regional water quality control boards (Cal. Water Code § 1258). In establishing water quality control plans, the regional boards are to consider beneficial uses (Cal. Water Code § 13241(a)). Beneficial uses include instream uses such as recreation, aesthetic enjoyment, navigation, and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves (Cal. Water Code § 13050 (f)).

Water Is Unavailable for Appropriation

Opportunity. A finding by the Board that a stream system is being fully applied to beneficial uses prohibits further appropriations that may adversely affect instream flows.

Background. When determining amounts of water available for appropriation, the Board "shall take into account, whenever it is in the public interest, the amounts of water required for recreation and the preservation and enhancement of fish and wildlife resources" (Cal. Water Code § 1243). The Board is further required to take into account, "whenever it is in the public interest, the amounts of water needed to remain in the source for the protection of beneficial uses" (Cal. Water Code § 1243.5).

A recent legislative enactment expands the Board's authority to recognize the beneficial uses associated with instream flows. Approved in September 1987, Senate Bill 1485 (Stats. 1987, C. 788, § 1) authorizes the Board to declare stream systems fully appropriated following notice and hearing (Cal. Water Code §§ 1205-1207). Such a declaration that a stream system is fully appropriated "shall contain a finding that the supply of water in the stream system is being fully applied to beneficial uses where the Board finds that previous water rights decisions have determined that no water remains available for appropriation." Unless the Board determines that applications to appropriate water from such a stream system will be subject to conditions that limit the use, diversion, or amounts of water, the Board "shall not accept for filing any application for a permit to appropriate water from the stream system," and pending applications may also be cancelled (Cal. Water Code § 1206).

Example. The Board has not yet applied the provisions of Sections 1205 to 1207 of the Water Code, and no court has ruled whether a stream system may legally be declared fully appropriated to benefit instream flows.

Evaluation. Used in conjunction with the Board's statutory obligation to consider and balance beneficial uses such as recreation and the enhancement of fish and wildlife, a declaration that a stream system is fully appropriated will prevent further appropriations that affect instream flows. As many stream systems in California are already fully appropriated or even overappropriated, such a declaration by the Board may place into proper perspective the needs of instream flows. This can be accomplished by the Board when it weighs the competing beneficial uses and finds that the sum of these uses results in a stream system being "fully applied to beneficial uses."

Conditions Imposed on Water Rights Permits and Licenses

Opportunity. The appropriation of water for beneficial uses is allowed "under such terms and conditions" as will "best develop, conserve, and utilize in the public interest the water sought to be appropriated" (Cal. Water Code § 1253). Terms and conditions can be imposed on permits and licenses that protect instream flows.

Background. The Board is vested with broad discretionary authority to prescribe terms and conditions on applications to appropriate water [Bank of

America v. State Water Resources Control Bd., 42 Cal.App.3d 198, 116 Cal. Rptr. 770 (1974)]. Terms and conditions that are imposed by the Board modify the quantity of water diverted under any permit or license issued to meet water quality objectives (23 Cal. Admin. Code § 780(b)), protect fish by allowing sufficient water to pass through a fishway in compliance with Section 5937 of the Fish and Game Code (23 Cal. Admin. Code § 782), and provide for the release of water "diverted and stored whenever such releases are determined by the Board to be in the public interest or are needed to protect public trust uses of water" (23 Cal. Admin. Code § 784).

The California Supreme Court has expanded the Board's authority to consider not only the public interest but also its responsibility to protect the public trust by prescribing terms and conditions or modifying permits and licenses. This authority is derived from the Court's holding in National Audubon Society v. Superior Court [33 Cal.3d 419, 445, 189 Cal. Rptr. 346, 364 (1983)] where the Court held that the State, as trustee of this public resource, retains supervisory control over State waters so that no party has a vested right to appropriate water in a manner harmful to the interests protected by the public trust. The Court held that "the public trust imposes a duty of continuing supervision over the taking and use of the appropriated water" (33 Cal. 3d at 447, 189 Cal. Rptr. at 365). When the State exercises its "sovereign power to allocate water resources in the public interest," it need not be confined by past decisions that do not reflect current knowledge or needs.

In United States v. State Water Resources Control Bd. [182 Cal. App. 3d 82, 150, 227 Cal. Rptr. 161, 201 (1986) (the "Racanelli decision")] the court evaluated the Board's authority to reexamine permits to appropriate water and found that the Board "unquestionably possessed legal authority under the public trust doctrine to exercise supervision over appropriators in order to protect fish and wildlife." Such authority "exists as a matter of law itself."

Example. The Board's authority to condition permits for the purpose of preserving instream flows is illustrated in the case of California v. United States [438 U.S. 645, 98 S.Ct. 2985 (1978)]. Here, the United States Supreme Court found that the Board could impose permit conditions necessary to meet the public interest requirement of the State water appropriation system.

The United States Bureau of Reclamation had applied for State permits and assignments of State priorities to impound 2.4 million acre-feet of water behind New Melones Dam on the Stanislaus River as part of the Federal CVP. In Decision No. 1422 the Board granted the permits subject to 25 conditions and limitations. The Board limited the Bureau's right to store water to nonconsumptive uses such as the protection and enhancement of fish and wildlife, water quality control, recreation, and power generation, mainly because the Bureau was unable to show that it had firm commitments or a specific plan to use the stored water.

The United States sought a judicial declaration that California, once it determined that sufficient unappropriated water was available, could not place any conditions on a Federal project. Upon review of a Ninth Circuit Court of Appeals decision favoring the United States [United States v. California, 558 F.2d 1347 (9th Cir. 1977)], the United States Supreme Court found that the

legislative history of the Reclamation Act of 1902 made it clear that the Bureau must comply with State law when seeking water for reclamation purposes [California v. United States, 438 U.S. at 676, 98 S.Ct. at 3001]. The United States Supreme Court found that the State of California may impose conditions on permits granted to the United States as long as the conditions are not inconsistent with any clear congressional directives, such as that found in the project authorization. The case was remanded back to the trial court to determine if the conditions imposed by the State were consistent with congressional intent. In reviewing the trial court's subsequent holding on remand in United States v. State of California, State Water Resources Control Board [694 F.2d 1171 (9th Cir. 1982)], the Ninth Circuit affirmed that none of the conditions imposed by the Board were inconsistent with congressional intent and thus were valid.

Decision No. 1422 provided that the Board would not allow additional water above the specified amounts needed for fish and wildlife preservation to be impounded for the purposes of power generation. In United States v. State of California, State Water Resources Control Board, the court agreed with the Board's decision that the project's power benefits alone did not justify the harm that would occur to whitewater rafting, stream fishing, and wildlife preservation--instream values to which the Board gave high value [694 F.2d at 1179].

In subsequent orders affirming Decision No. 1422, the Board revised permit conditions and restrictions issued to the Bureau for the operation of New Melones Dam and allowed the Bureau to begin to fill the reservoir to satisfy consumptive use permits. The Bureau then applied to the Board for rights to direct diversion of water at New Melones Reservoir and other downstream locations for consumptive use. The Bureau also requested an increase in existing rights for direct diversion for hydropower purposes. The requested purposes of use for the direct diversion portions of the applications were for irrigation, domestic, municipal, industrial, recreation, water quality control, and fish and wildlife enhancement uses. On 21 January 1988, the Board issued Decision No. 1616, approving the direct diversion portions of one application for consumptive use and an additional application for increased direct diversion rights for hydropower generation. Two other applications for consumptive use were denied when they were found to be unnecessary for the proposed operation of the project.

In Decision No. 1616, the Board stated that it had "recognized the need for detailed studies to determine an appropriate instream flow schedule for fishery protection" when it approved the water rights permits in Decision No. 1422. DFG protested all the applications by the Bureau to divert and appropriate water as specified in the new applications. In June 1987, DFG and the Bureau entered into an agreement committing the Bureau to "make specified instream flow releases for fishery purposes on an interim basis in accordance with a detailed plan of study" to be made by the Bureau [D. 1616 at p. 6]. The agreement set forth "the parties' intention to reach a final agreement on long-term fishery resource protection measures and to request mutually that the Board require implementation of such measures as a condition of the appropriate permits or licenses issued." The Board approved the agreement and, in Decision No. 1616, imposed conditions on the permits, including the fishery study,

interim instream flows, and the express reservation of the Board's jurisdiction to revise "instream flow standards for fishery and water quality purposes." The Board stated the conditions will protect public trust resources affected by Stanislaus River flows and will allow for further Board action as appropriate when instream flow studies are completed. (A decade ago, the Bureau of Reclamation asserted that there was a need for water to be impounded by New Melones Dam for irrigation purposes in the immediate area. However, to this date, no conveyance facilities have been constructed, and no project water has been delivered.)

Evaluation. The ability of the State to place terms and conditions on applications, permits, and licenses to appropriate water represents a real opportunity to protect and enhance instream values consistent with the public interest, confirmed by the United States Supreme Court. Agreements like that between the Bureau and DFG, when incorporated into permit conditions, can ensure instream flows will be protected. New water storage projects thus offer an opportunity to improve fishery and other resource conditions.

Release of Stored Water to Protect Instream Flows

Opportunity. The Board may require in a permit application to store water releases for the maintenance and protection of fisheries.

Background. The Department of Fish and Game is entitled to participate in the water rights appropriation procedure by recommending the amounts of water "required for the preservation and enhancement of fish and wildlife resources" (Cal. Water Code § 1243). Fish and wildlife preservation and enhancement use is defined by Board regulations to mean "using water to maintain or provide habitat or other benefit for fish and wildlife by taking water under control" by the "collection or diversion of water to storage for either retention in the reservoir or release downstream for the purpose of preservation or enhancement or release downstream for the purpose of preservation or enhancement of fish or wildlife" (23 Cal. Admin. Code § 666). DFG can protest an application to appropriate water, and will either conduct fishery-needs studies or require the applicant to do so. DFG will then make recommendations to the Board. DFG may enter into negotiations with applicants and, if an agreeable solution is reached, the applicant and DFG may make a joint recommendation to the Board.

Example. In Bank of America v. State Water Resources Control Board [42 Cal. App. 3d 198, 116 Cal. Rptr. 770 (1974)] the Court found DFG's judgment in the water rights appropriation process is entitled to great weight.

Charged with a statutory obligation, Fish and Game is the guardian and custodian of the public's deep and continuing interest in fish and game resources of the State. It has the collective experience and expertise to make the essential determinations in the technical areas of water flows and fish maintenance [42 Cal.App. at 213, 116 Cal. Rptr. at 779].

In this case, DFG filed a protest against the Bank of America's (Bank) application to appropriate water from the Cosumnes River. DFG then reached a written agreement with the Bank that assured a minimum flow in the Cosumnes

River to protect fish life and provided that the terms of the agreement would be included in any permits issued by the Board on the application to appropriate water. The agreement assured continued protection and maintenance of river fishery resources, including six detailed conditions regulating the amount and period of diversion. The conditions "constituted a detailed formula for withdrawal of water that were keyed to seasonal dates, to maximum and minimum total flows in the river, and to the manner of measurements of the flows."

The Board also sought to impose further conditions to allow permanent public access to the reservoir as a "trade-off" for the diminished instream flow and recreation values of the Cosumnes River. The Court found that conditions in the agreement between DFG and the Bank adequately protected Cosumnes River fishery resources. The Board's attempt to require public access was rejected due to insufficient evidence establishing that such access was necessary for protection of the public interest [42 Cal. App. at 213, 116 Cal. Rptr. at 780].

Evaluation. The DFG protest and negotiation powers are essential features of the Board's consideration of instream flows. By regulating the amount and period of diversion, the Board maintains instream flows and protects fishery resources. A major drawback to this method, however, is that it occurs on a case-by-case basis. Without the establishment of a minimum streamflow regime on each stream where water is sought to be appropriated, DFG is placed into a position of reacting to applications rather than planning for instream flows. Flow studies can be conducted by DFG prior to new applications, and applicants often are required to fund studies as part of the process of obtaining a water right. Such studies, when measured by the resources protected and the economic benefits of obtaining a water right use, add little to the overall cost of most large water projects.

Modification of Permit Terms and Conditions

Opportunity. The Board may reserve its jurisdiction over permits to appropriate water to modify conditions necessary to protect instream flows.

Background. Section 1394 of the Water Code provides that if the Board finds "sufficient information is not available to finally determine the terms and conditions which . . . will best develop, conserve, and utilize in the public interest the water sought to be appropriated," it may reserve jurisdiction over the permit to allow time for a study or observation over a period of actual operation. The Board may also reserve jurisdiction to impose coordinated terms and conditions when an application is part of a coordinated project. All rights and privileges under a permit or license are subject to the continuing authority of the Board "in accordance with law and in the interest of the public welfare to protect public trust uses" of water (23 Cal. Admin. Code § 780(a)).

Example. In its New Melones decision (Decision No. 1422, State Water Resources Control Board, April 1973) the Board reserved jurisdiction to determine an appropriate instream flow schedule to preserve and enhance fish and wildlife, water quality needs, and establish dry-year criteria pursuant to fisheries studies.

As an exercise of its authority to reserve jurisdiction over permits and licenses, the Board imposed subsequent conditions in Decision No. 1616 to provide for instream uses. The Court in United States v. State Water Resources Control Board [182 Cal.App.3d 82, 227 Cal. Rptr. 161 (1986)] held that the Board's ability to modify permits is a proper exercise of the Board's public trust authority. In fact, the power and duty of the Board to reexamine water rights permits to protect fish and wildlife whenever feasible was confirmed by the Court "even without a reservation of jurisdiction."

Evaluation. The ability of the Board to modify permit terms and conditions is an excellent opportunity to protect and enhance instream flows. This opportunity could be used when DFG conducts subsequent studies of a stream affected by any water development project. Moreover, the Board's public trust responsibility, spelled out in the National Audubon and Racanelli decisions, requires it to consider past grants of appropriative rights and determine if a higher level of protection for instream uses is necessary. The emerging law on the feasibility of the public trust doctrine as a means to protect instream flows is further examined in the section on the Public Trust.

Constitutional Prohibition Against Unreasonable Use or Waste

Opportunity. Instream flows can be protected by enforcement of the Constitutional provisions that require a diverter to use a reasonable method of diversion.

Background. Waters of the State must be put to the fullest beneficial use possible, and waste, unreasonable use, or unreasonable method of use or diversion are to be prevented (Cal. Const. Art. X, Sec. 2). The Board and DWR have a statutory obligation to see that California water resources are used in a manner consistent with the constitutional directive (Cal. Water Code § 275). This authority extends to all water rights and is not limited to those held under appropriative water rights permits or licenses. The Board prevents waste or unreasonable use of water by taking into account, when it is in the public interest, the amounts of water needed to remain in the source for the protection of beneficial uses, which include the protection and enhancement of fish, wildlife, and recreation (Cal. Water Code § 1243.5). A finding that competing uses are beneficial uses does not necessarily establish that such uses are reasonable [Joslin v. Marin Muni. Water Dist., 67 Cal.2d 132, 60 Cal.Rptr.377 (1967)].

Example. In 1970, the East Bay Municipal Utility District (EBMUD) contracted with the Bureau for delivery of 150,000 acre-feet annually. The contract called for the water to be delivered by the Folsom South Canal from the Auburn-Folsom-South Project on the American River, a unit of the CVP. The Folsom-South Canal diverts water above the lower American River, a stretch of the American River downstream from Nimbus Dam that has been used by the public for scenic and recreational purposes for many years. In Decision No. 1356, the Board granted the Bureau permits to appropriate water, recognizing that Federal, State, and local agencies were conducting studies to determine flow requirements for fish and wildlife, recreation, and other beneficial uses. Concluding that it lacked sufficient information to determine with finality the terms and conditions that would protect such instream uses, the Board reserved its

jurisdiction over the permits to protect the recreational, fish, and wildlife uses. All rights and privileges under the permits, including method of diversion, method of use, and quantity of water diverted, were subject to the continuing authority of the Board in accordance with law and in the interest of the public welfare to prevent waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion. An important factor influencing the Board's decision was that Auburn Dam and the Folsom-South Canal had not yet been constructed.

In Decision No. 1400, which applies to the construction of Auburn Dam, the Board criticized the contract between EBMUD and the Bureau as an unsound management of the water resource and established minimum flows essential for the protection of fish and wildlife and recreational uses. The decision recognized that EBMUD could take delivery of the water at some other downstream location on the Sacramento River rather than the Folsom-South Canal, leaving the 150,000 acre-feet of water instream for fish and recreational purposes. Again, both Auburn Dam and the canal had not been constructed.

In Environmental Defense Fund v. East Bay Muni. Util. Dist. (I) [20 Cal. 3d 327, 142 Cal. Rptr. 904 (1977)], an action challenging the contract between EBMUD and the Bureau, environmental plaintiffs alleged that EBMUD's agreements and the Bureau's completion of the Auburn-Folsom-South Project would diminish flows on the lower American River, injure whitewater and fishing recreational opportunities, increase salinization, accelerate wild river destruction, and pollute San Francisco Bay. The complaint alleged that EBMUD could have diverted water at a point below the confluence of the Sacramento and lower American Rivers just as economically as from the point chosen, and that the decision to obtain water upstream from the lower American River was an unreasonable method of diversion. The Court held that the complaint failed to state a cause of action because State law would interfere with the Secretary of the Interior's expressly delegated powers, frustrating and limiting the benefits of the Federal project. The United States Supreme Court disagreed and vacated the judgment and remanded the case in light of its holding in California v. United States [438 U.S. 645, 98 S.Ct. 2985 (1979)]. (California may impose any condition not inconsistent with congressional directive; absent a conflict, the Bureau must comply with State law in the control, appropriation, use, or distribution of water.)

On remand, the California Supreme Court held that Congress had authorized the construction of Auburn Dam and the Folsom-South Canal and that a holding that dam construction is contrary to State law is itself contrary to the congressional directive [EDF v. EBMUD (II), 26 Cal. 3d at 192, 161 Cal. Rptr. at 470]. However, the Court found that location of the diversion point downstream on the basis of State law would not be inconsistent with congressional directives, especially since the authorization for the project requires the Secretary of the Interior to design and locate the facilities giving due consideration to the California Water Plan. The Court granted the appellants leave to amend their complaint to allege that the diversion of water by EBMUD through the Folsom-South Canal constituted an unreasonable method of diversion, finding that "the Board had not determined whether diversion of the EBMUD water through the Folsom-South Canal rather than another point of diversion . . . constituted an unreasonable method diversion."

The trial court referred the case to the Board, as a referee, to investigate and resolve the issues that are involved in the suit concerning the alleged unreasonable method of diversion. As of June 1988, DFG, The State Lands Commission, Sacramento County, and Save the American River Association were limited intervenors. The draft report of the referee recommends that EBMUD be allowed to divert at the Folsom-South Canal. The draft report finds that the Folsom Reservoir flows and hatchery operations have probably brought the population of the salmon fishery back to predevelopment levels on the river. Flows on the American River may be greater during the summer months between July and October because all inflow into Folsom Reservoir (and Auburn Reservoir if constructed) must be released. Standing alone, however, this fact should not provide justification for not leaving the EBMUD water instream, as different fisheries may have different seasonal requirements, such as the Chinook Salmon fishery.

Evaluation. The California Constitution declares that the general welfare requires that water resources be put to the fullest beneficial use possible. This justifies the Board's ability to require that EBMUD select a diversion point below the lower American River to protect existing public beneficial uses, including instream flows. If the Board subsequently finds that the proposed Folsom-South Canal diversion is unreasonable, an amount equivalent to about 210 cfs of continuous flow will remain in the lower American River, water that will protect instream uses. A managed solution to the problem would allow EBMUD to receive water for consumptive purposes, while providing water to further enhance recreation and fish and wildlife resources. The desire of the Board to find a managed solution to the problem may mean that the EBMUD water will be left instream. The Board's duty to ensure that unreasonable methods of diversion are prohibited allows multiple beneficial uses to be enhanced to the fullest extent possible. Given the protracted length of litigation in the EDMUD cases, and the Board's desire to find a managed solution incorporating all beneficial uses, future decisions concerning points of diversion may be held to stricter scrutiny.

Note: Some of the information in this section was provided by personal communication with the following people:

- D. Frink, Attorney, State Water Resources Control Board, January 1988.
- J. Kramer, Office of the Chief Counsel, Department of Water Resources, January 1988.
- M. Taylor, Attorney, State Water Resources Control Board, January 1988.
- J. Turner, Environmental Services, California Department of Fish and Game, January 1988.

GROUNDWATER

Opportunity

Whenever water is diverted from surface waters for the purpose of recharging underground basins, the Board must determine if such an appropriation is in the public interest and can condition such use to protect instream flows.

Background

The Board has authority over the replenishment of groundwater basins when groundwater pumpers use surface water appropriations in lieu of groundwater. Groundwater users who stop pumping in favor of an alternative water supply may notify the Board so as to secure rights to the extra water stored (Cal. Water Code §§ 1005.1 and 1005.4). The term "alternative supply of nontributary source" means water imported from another watershed or water conserved by a water conservation plan (Cal. Water Code §§ 1005.1).

Section 1242 of the Water Code provides that "the storing of water underground, including the diversion of streams and the flowing of water on lands necessary to the accomplishment of such storage, constitutes a beneficial use of water." The declaration that underground storage of water is a beneficial use of water requires the Board to review many proposals for storing water underground. This review includes determining if an appropriation for such purposes is in the public interest and if such uses are beneficial when compared against other beneficial uses (Cal. Water Code § 1257). Such appropriations are also subject to terms and conditions imposed by the Board for the protection of beneficial uses, including instream flows.

Evaluation

The storage of water underground rewards those groundwater pumpers who develop alternative water supplies with the ability to secure rights to the additional water storage. Without substantial oversight by the Board, this process could seriously endanger other beneficial uses of water. However, since the storage of water underground is but one beneficial use of water, it must be weighed against the need to leave water instream to protect and enhance fish, wildlife, and recreation purposes. The Board's influence through the surface water permitting process provides a means of protecting all beneficial uses of water, including instream flows, when groundwater pumpers seek to appropriate surface waters to replenish groundwater supplies.

COMMON LAW NAVIGATIONAL SERVITUDES

Opportunity

The public has a common right to use freely any navigable waters (the "navigation servitude"). This allows the State to assert its public trust powers to maintain instream flows by preventing obstructions of navigable waters.

Background

Under the Commerce Clause (U.S. Const. Art. 1, Sec. 8), Congress has the power to regulate navigation in the navigable and nonnavigable waters affecting them, together with control over the removal of obstructions to their navigation [North Bloomfield Gravel Min. Co. v. United States, 88 F. 664, 674 (9th Cir. 1898)]. For the purpose of the regulation of waters by Congress under the Commerce Clause, navigable rivers are those used or susceptible to being used in their natural condition or with reasonable improvements for purposes of trade and navigation [Daniel Ball, 77 U.S. 557 (1871)]. State control over navigable waters is secondary only to the authority of the Federal Government [Gray v. Reclamation Dist. No. 1500, 174 Cal. 622, 163 P. 1024 (1917)].

The Federal navigational servitude is superior to the rights of a riparian owner and to the State's title to the streambed in navigable waters. The title of a riparian landowner on the shore of a navigable waterway to the historical highwater mark is subservient to public rights in navigation and the power of Congress to regulate navigation under the Commerce Clause. By assuring that minimum streamflows are present for purposes of navigation, the Federal navigation servitude may protect instream flows on navigable streams. The Rivers and Harbors Act of 1937 (50 Stat. 844, 850) provides that improvement of navigation and regulating the flow of the Sacramento and San Joaquin Rivers are purposes of the CVP.

In California, the State holds all of its navigable waters and the lands beneath them as trustee of the public trust for the benefit of the people of the State. This title is held by the State if, at the time of the State's admission to the Union, the waters were in fact capable of use for trade and navigation in their natural condition. The power of the State to control, regulate, and utilize such waters within the terms of the trust is absolute, except as limited by the paramount supervisory power of the Federal Government over navigable waters [Colberg, Inc. v. State of California ex rel. Dept. of Public Works, 67 Cal. 2d 408, 432 P.2d 3, 62 Cal. Rptr. 401 (1967)]. The public trust easement over navigable waters in California extends not only to tidelands but includes public access to inland navigable waters as well.

In Marks v. Whitney [6 Cal. 3d 251, 259, 98 Cal. Rptr. 790, 796 (1971)] the California Supreme Court held that the scope of the public's right in tidelands encompassed more than the rights of navigation, commerce, and fishing, extending also to public uses such as the right to hunt or swim, and the right to preserve tidelands in their natural state. The right of the public to use waters other than tidelands was set forth in People ex rel. Baker v. Mack [19 Cal. App. 3d 1040, 1050, 97 Cal. Rptr. 448, 454 (1971)], where the Court stated that "members of the public have the right to navigate and to exercise the incidents of navigation in a lawful manner at any point below high-water mark on waters of this State which are capable of being navigated by oar or motor-propelled small craft." The traditional test of navigability has been expanded by this "pleasure boat" test of navigability for public purposes in California [Hitchings v. Del Rio Woods Recreation and Park Dist., 55 Cal. App. 3d 560, 572, 127 Cal. Rptr. 830, 837 (1976)].

Example

The public trust uses of navigable waterways for fishing, swimming, boating, and other recreational uses was extended to inland waterways and lakes in California v. Superior Court (Lyon) [29 Cal.3d 210, 172 Cal. Rptr. 696 (1981)]. The court held that as the State had succeeded to the ownership of the beds of nontidal navigable lakes and streams upon its admission to the Union, the ownership extended to the high-water mark, and "the same incidents of the trust applicable to tidelands also apply to nontidal navigable waters and that the public's interest is not confined to the water, but extends also to the bed of the water" [29 Cal. 3d at 231, 172 Cal. Rptr. at 708]. The court could find no valid reason why the scope of the public's right in nontidal waters should not be as broad as the public's rights enunciated in Marks v. Whitney, where such rights in tidelands, in addition to commerce, navigation, and fishing, include recreational uses and the right to preserve tidelands in their natural state.

Evaluation

The public right to use waters in California for purposes such as pleasure boating, swimming, fishing, and other recreational purposes has been expanded by a vigorous application of the public trust doctrine by the California Supreme Court. Included within the scope of the public trust are the use of navigable waters that are either tidal or inland. No less than 4,000 miles of shoreline along 34 navigable lakes and 31 navigable rivers in the State are involved [California v. Superior Court (Lyon), 29 Cal. 3d at 216, 172 Cal. Rptr. at 699]. The power of the State to protect the areas between high and low water for navigational purposes protects instream flows by recognizing the rights of the public to use the waters for recreational purposes. The decision in the Lyon case protected 500 acres of marshland, lands that the court found were of great importance for the ecological and recreational needs of the State. Although this did not protect instream flows per se, riparian habitat along a stream could be protected by applying the public trust principles of this case. The protection of riparian habitat would require sufficient instream flows necessary to protect the riparian habitat.

Note: Some of the information in this section was provided by personal communication with:

J. Kramer, Office of General Counsel, Department of Water Resources, January 1988.

THE CALIFORNIA ENVIRONMENTAL QUALITY ACT

Opportunity

The California Environmental Quality Act (CEQA) requires that the overall impact of proposed water appropriations and the development or uses accompanying them on the environment be considered, so that adverse effects to the environment are avoided or mitigated whenever feasible. Such a requirement means that

instream flows and wetland uses of water will be considered and protected whenever feasible.

Background

CEQA requires all State agencies "which regulate activities of private individuals, corporations, and public agencies which are found to affect the quality of the environment, to regulate such activities so that major consideration is given to preventing environmental damage" (Cal. Pub. Res. Code § 21000(g)). It is the policy of the State to:

- (a) [T]ake all action necessary to protect, rehabilitate, and enhance the environmental quality of the State.
- (b) Take all action necessary to provide the people of this State with clean air and water [and] enjoyment of aesthetic, natural, scenic, and historical environmental qualities
- (c) Prevent the elimination of fish or wildlife species due to man's activities [and] insure that fish and wildlife populations do not drop below self-perpetuating levels [Cal. Pub. Res. Code § 21001].

Public agency projects are subject to the "same level of review and consideration" as those of private projects as approved by public agencies [Cal. Pub. Res. Code § 21001.1]. The State Water Resource Control Board follows CEQA policy guidelines when it determines how the public interest will be affected in an application to appropriate water. The provisions of CEQA further broaden the scope of the public interest to include noneconomic social values as well as public economic interests, such as aesthetic, natural, and scenic uses. One commentator has remarked that:

In most States, water rights administration follows traditional economic concepts of cost-benefit analysis, which do not consider values such as scenic beauty and fish and wildlife resources to the extent that readily measurable irrigation, and municipal and industrial water benefits are considered. Under the expanded concept of public interest [under CEQA], the Board [would] give greater weight to these intangible factors, such as recreation and preservation of scenic beauty (Robie 1972).

If an Environmental Impact Report identifies adverse environmental effects for which no feasible mitigation measures are available, the approval of the project requires that the governmental agency exercising permitting authority must either make a finding of overriding considerations or deny approval of the project (Cal. Pub. Res. Code §§ 21002, 21002.1; 14 Cal. Admin. Code § 15021).

Example

The provisions of CEQA must be complied with before a regional water quality board can issue a Section 401 (Federal Clean Water Act, 33 U.S.C. § 1251 et seq.) certification for a hydropower project. A recent decision by the Board

(which has concurrent jurisdiction with the regional boards over water quality matters) denied Section 401 certification for some 40 potential Federal Energy Regulatory Commission (FERC) projects because CEQA documents would not have been prepared within the deadline imposed by FERC for either a certification or waiver. The applicants can reapply for certification when the proper CEQA document is prepared. The requirement that the environmental impacts of possible hydropower development be considered before certification is granted allows for a proper consideration of environmental values, such as instream flows.

Evaluation

The requirement that State agencies consider intangible values such as the preservation of fish or wildlife as a matter of State policy provides an opportunity to protect instream flows and wetland uses of water. The provisions of CEQA provide protection to instream flows by requiring mitigation for significant environmental impacts. While not strictly a regulatory measure, the mandate that CEQA be complied with by State agencies provides that instream flows for beneficial uses will be considered, evaluated, and protected whenever feasible, in the absence of overriding considerations.

WATER QUALITY AND POLLUTION CONTROL

Opportunity

The relationship between water quality and water quantity provides an opportunity to protect instream flows. Water quality standards preventing degradation protect beneficial uses such as instream flows for the preservation of fish and wildlife (Cal. Water Code § 13050(f)). Beneficial uses of water as specified in a water quality plan are to be considered by the Board when determining what water should remain in the stream (Cal. Water Code § 1245.5).

Background

The Porter-Cologne Water Quality Act (Cal. Water Code § 13000 et seq.) establishes a comprehensive statewide program for water quality control administered by nine regional boards (Cal. Water Code § 13200), which implement State policy for water quality control as formulated and coordinated by the Board (Cal. Water Code § 13140). Water quality standards are used to prevent degradation of water quality by protecting beneficial uses of water that include, but are not necessarily limited to: domestic, municipal, agricultural and industrial supply, power generation, recreation, aesthetic enjoyment, navigation, and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves (Cal. Water Code § 13050(f)). The regional boards also must establish objectives that will reasonably protect beneficial uses, prevent nuisance, designate beneficial uses to be protected, and implement a program to achieve these objectives (Cal. Water Code §§ 13240-13243). The provisions of the Federal Clean Water Act (33 U.S.C. § 1251 et seq.) are incorporated into the Porter-Cologne Water Quality Act and are implemented by the Board (Cal. Water Code § 13160).

Having jurisdiction over both water rights and water quality concerns, the Board is to attain the highest reasonable water quality possible by considering all existing and future water demands and the total values involved, beneficial and detrimental, economic and social, tangible and intangible (Cal. Water Code § 13000). This responsibility requires the Board to consider water quality control plans and impose terms and conditions as necessary to carry out such water quality plans when acting upon applications to appropriate water (Cal. Water Code § 1258). Directly linking water quality objectives to the maintenance of instream flows, Section 1243.5 of the Water Code requires the Board to take into account in appropriative determinations "the amounts of water needed to remain in the source for protection of beneficial uses including any uses specified to be protected in any relevant water quality control plan" New permits to appropriate water include a condition that the quantity of water diverted is subject to modification if, after notice and opportunity for hearing, the Board finds that such modification is necessary to meet water quality objectives in water quality control plans (23 Cal. Admin. Code § 780(b)).

A major focus of the enactment of the 1972 Federal Water Pollution Control Amendments (P.L. 92-500; 33 U.S.C. § 1251 et seq.) was to encourage State administration of the National Pollutant Discharge Elimination System program (NPDES). As specified by the Water Quality Act of 1987, all NPDES permits must comply with water quality standards developed by the State pursuant to Section 301 (33 U.S.C. § 1311(b)(1)(C)). California authorized and implemented the provisions of the Federal Water Pollution Control Act, as amended, by requiring any person discharging or proposing to discharge waste to file a report of the discharge with the regional board (Cal. Water Code § 13260). Section 13381 of the Water Code further provides that waste discharge requirements (the equivalent of permits in the Federal act) may be terminated or modified with cause, for either a violation of any condition contained in the discharge requirements or for a change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge.

Example

In 1976, the Board convened a hearing to formulate a water quality control plan for the Sacramento-San Joaquin Delta and to determine whether water use permits held by the Bureau and the DWR should be amended to implement the plan. After an extensive hearing, the Board adopted a water quality plan for the delta that established new water quality standards for salinity control and for fish and wildlife protection in the delta and Suisun Marsh. The Board also issued Decision No. 1485, which modified permits held by the Bureau and DWR and directed the project operators to adhere to the water quality standards set forth in the water quality plan.

The delta is the last location where surplus waters from Northern California are diverted and transported to the water-deficient areas of the State. As these statewide projects now operate, water stored behind project dams in the wet months of the winter is released in the summer to flow into and across the delta, mixing with other delta flows eventually to be pumped into aqueducts leading south and west. As one commentator has explained:

Because the Delta's waterways are central to State water development, maintenance of the quality of the Delta's waters is essential. The major problem faced in this regard is intrusion of saline waters from the Pacific Ocean. The intrusion of the saline waters of the Pacific occurs when outflows from the Delta are insufficient to repel incoming ocean tides. In addition to threatening the water supplies diverted to central and southern California, salt water intrusion can adversely affect every water user within the Delta, as well as its recreational, fish, and wildlife resources. While the problem is not a new one, continued construction of upstream storage reservoirs to retain water for downstream consumptive uses and increased exportation of water out of the Delta to southern portions of the State threaten to reduce future Delta outflows, thereby intensifying the problems of salinity intrusion [Note, The Delta Water Rights Decision, 2 Ecology Law Quarterly 733 (1972)].

In the Racanelli decision [United States v. State Water Resources Control Board, 182 Cal.App.3d 82, 132, 227 Cal. Rptr. 161, 189 (1986)], the Court held that the modification of the project's permits to implement water quality standards in Decision No. 1485 was a proper exercise of the Board's water rights authority. The Court found that in the Board's water quality role of setting the level of water quality protection, its task is not to protect water rights, but to protect beneficial uses [182 Cal. App. 3d at 116, 227 Cal. Rptr. at 178]. The statutory obligations of the Board required it to adopt a water quality control plan consistent with the overall statewide interest in water quality that would ensure the reasonable protection of beneficial uses. In its decision, the Court found that the Board failed to consider the effect of degradation by users other than the operators of the water projects--namely other upstream diverters or polluters [182 Cal. App. 3d at 118, 227 Cal. Rptr. at 179-180]. That is, the ability to maintain instream flows in sufficient quantities for water quality purposes in the delta required the Board to weigh the impacts of all users. By combining both its water rights and water quality functions in a single proceeding, "the Board compromised its important water quality role by defining its scope too narrowly in terms of enforceable water rights" (182 Cal. App. 3d at 119-120, 227 Cal. Rptr. at 180).

In the summer of 1987, the Bay-Delta hearing was initiated to study water quality needs and to protect the environmental and beneficial uses of water in the delta, balancing this with the need for water outside of the delta. The hearing is divided into three phases. Phase I was an evidentiary phase to examine existing beneficial uses of water; Phase II will adopt a new plan to control salinity and flow needs within the delta and a pollutant policy document; and Phase III will look to the implementation of the quality control plan, including conditioning existing water rights within the area. The hearing is expected to take three years to complete.

Evaluation

By imposing terms and conditions on the largest water exporters in the delta, the CVP and the SWP, the Board required that beneficial uses be protected by releasing flows to enhance and protect fish and wildlife while providing sufficient flows for water quality purposes. Decision No. 1485

protected both the quality of the water and the quantity of the water necessary as instream flows for meeting water quality objectives. The subsequent Bay-Delta hearing and the public trust duty of the Board to consider the beneficial use of instream flows to protect fish and wildlife assure instream flow needs will be adequately assessed and properly considered as the Board balances all beneficial uses.

Note: Some of the information in this section was provided by personal communication with:

D. Albin, Environmental Specialist, Division of Water Rights, State Water Resources Control Board, December 1987.

D. Frink, Attorney, State Water Resources Control Board, January 1988.

J. Turner, Supervisor, Environmental Services, California Department of Fish and Game, December 1987.

WILD AND SCENIC RIVERS

Opportunity

The California and the National Wild and Scenic Rivers Acts preserve free-flowing rivers with outstanding scenic, recreational, fish and wildlife, and other resource values. The Acts protect and enhance instream flows within rivers and segments of rivers nominated for inclusion or already within a wild and scenic rivers system.

Background

The California Wild and Scenic Rivers Act (California Act) states "It is the policy of the State of California that certain rivers which possess extraordinary scenic, recreational, fishery, or wildlife values shall be preserved in their free-flowing state, together with their immediate environments, for the benefit and enjoyment of the people of the State" (Cal. Pub. Res. Code § 5093.50). The California Act is based on the National Wild and Scenic Rivers Act (National Act) (P.L. 90-542, 16 U.S.C. §§ 1271-1287), which provides that "certain selected rivers of the Nation which, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations" (16 U.S.C. § 1271).

The National Act created a National Wild and Scenic Rivers System (National System) to address the apparent inadequacy of State water systems to preserve and protect natural river systems, including instream flows, particularly in the Western States. The National System is composed of rivers that are either authorized by an Act of Congress (16 U.S.C. § 1273(a) (i)) or are designated as wild, scenic, or recreational pursuant to a State Act and are permanently administered by the State. The Governor of the State may apply to

the Secretary of the Interior for inclusion into the National System (16 U.S.C. § 1273(a)(ii)). Section 1273(b) of the National Act provides that:

Every wild, scenic, or recreational river in its free-flowing condition, or upon restoration to this condition, shall be considered eligible for inclusion in the national wild and scenic rivers system and, if included, shall be classified, designated, and administered as one of the following:

- (1) Wild river areas - those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America.
- (2) Scenic river areas - those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.
- (3) Recreational river areas - those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past (16 U.S.C. § 1273(b)).

The California Act designates portions of five major river systems and certain tributaries for the California System, the majority of which are in the northern coastal area of the State. The California system includes the entire Smith River and its tributaries, and major portions of the Klamath, Scott, Salmon, Eel, Trinity, and American Rivers (Cal. Pub. Res. Code § 5093.54). The East Fork Carson, West Walker, and McCloud Rivers were designated by the Legislature in 1986 as potential additions to the California System (Cal. Pub. Res. Code § 5098.548).

Designation of a river or river segment within a wild and scenic river system preserves instream flows by prohibiting new stream diversions and impoundments on the designated river or segment. No diversion or impoundment facility can be constructed on any river or segment designated for study as a potential addition to the California System (Cal. Pub. Res. Code § 5093.55 (b)). The California Act prohibits State departments or agencies from assisting or cooperating with any State, local, or Federal department or agency "in the planning or construction of any dam, reservoir, or other water diversion, or other water impoundment facility that could have an adverse effect on the free-flowing condition and natural character" of any river segment included in the California System (Cal. Pub. Res. Code § 5093.56). In addition, the State Water Resources Control Board cannot accept for filing an application to appropriate water in connection with the construction of a dam, reservoir, or impoundment facility on any river within the California System (23 Cal. Admin. Code § 734(a)). The California Act includes a similar classification provision as the National Act that designates included rivers or river segments as either pristine wild rivers, relatively undisturbed scenic rivers, or developed

recreational rivers, depending on the current level of development and access (Cal. Pub. Res. Code § 5093.53).

While the California and National Acts are very similar in scope and purpose, there is one notable exception. Inclusion into the National System protects designated rivers from Federal water projects and prohibits the Federal Energy Regulatory Commission (FERC) from licensing hydropower projects on designated rivers. Section 7(a) of the National Act states "no department or agency of the United States shall recommend authorization of any water resources project that would have a direct and adverse effect on the values for which such river was established" (16 U.S.C. § 1278(a)). This protection also extends to rivers or river segments nominated for inclusion into the National System (16 U.S.C. § 1278(b)). FERC licensing of hydropower projects is allowed, however, for "developments below or above a potential wild, scenic, or recreational river area or on any stream tributary thereto which will not invade the area or diminish the scenic, recreational, and fish and wildlife values, present" (16 U.S.C. § 1278(b)). Under Section 7 of the National Act (16 U.S.C. § 1278), it was the intent of Congress to impose limitations on FERC's ability to license construction of hydroelectric projects on or directly affecting a wild and scenic river, including construction that would have an adverse effect on scenic values [*Swanson Mining Corp. v. Federal Energy Regulatory Comm.*, 790 F.2d 96, 102 (D.C. Cir. 1986)]. Such protection is not offered by the California Act.

Example

In July 1980, the Governor of California requested the Secretary of the Interior to place 4,000 miles of State-protected rivers into the National Wild and Scenic Rivers System. This request for additional protection of the northern coastal rivers was seen as a move to placate environmentalists who were concerned about the legislation that the Governor had just signed authorizing construction of additional facilities of the State Water Project, including the Peripheral Canal around the Sacramento-San Joaquin Delta. The National Act requires that inclusion into the National System of rivers or river segments designated under a State Act be done only upon review and approval by the Secretary of the Interior, and that the State must administer the proposed rivers as part of the National System (16 U.S.C. § 1273(ii)). In the waning hours of the Carter Administration, Interior Secretary Andrus approved the proposal. All of the State's requested rivers were fully included in the National System, with the notable exception of 12 tributaries to the Smith River located in private logging areas.

The decision was opposed by the timber industry, mining interests, northern coastal counties that feared the economic impacts of lessened industry, and southern water developers who feared that Federal designation would foreclose the use of the untapped water resources of the area. Designation was supported by the fishing industry, recreation groups, and environmentalists. The designation into the National System was upheld in *County of Del Norte v. United States* [732 F.2d 1462 (9th Cir. 1984)]. Inclusion into the National System provides additional protection to designated rivers and segments within the State System as all Federal agencies must protect and preserve the

rivers in the same fashion and for the same purposes as required of State agencies.

Evaluation

Rivers included in either the California or National Wild and Scenic River Systems receive strong protection for instream flows. By declaring that the preservation of free-flowing rivers in a natural condition is a reasonable and beneficial use of water, the Acts preserve the extraordinary scenic, recreational, fish, and wildlife values of designated rivers. Inclusion of a river into a wild and scenic system infers that the highest priority use of the designated river or segment is for those beneficial uses specified by the Acts. The protection accorded the northern coastal rivers is a significant example of the use of the Wild and Scenic Rivers Act to protect instream flows. The strength of the protections is a major impediment to getting rivers designated, and Wild and Scenic Rivers designation remains a problem-filled approach to preserving instream flows.

Note: Some of the information in this section was provided by personal communication with:

P. Dunn, Environmental Scientist, Jones and Stokes Associates, Inc., Sacramento, California, January 1988.

HYDROPOWER DEVELOPMENT

Hydropower development in California requires substantial interaction between the applicants, the Federal Energy Regulatory Commission (FERC), the Board, and the DFG. Hydropower projects are licensed in accordance with FERC requirements. State permitting and review processes must be completed and approved prior to licensing, construction, retrofitting, or redevelopment. State water rights permits can be conditioned on the maintenance of instream flows and require a thorough review of DFG's position on the project and proposed mitigation measures.

State Pollution Certification

Opportunity. Section 401 of the Clean Water Act requires that discharges into navigable waters be certified by the State before a Federal permit is issued for hydropower development. Minimum flow requirements included in the State certification process provide opportunities to protect instream flows.

Background. Water impoundment for purposes of hydropower generation directly impact streamflows. Subsequent discharges from dams can threaten water quality as trapped silt and water stagnation behind the headwall of a dam cause nutrient buildups that result in algae blooms and eutrophication. Other downstream water quality impacts to fish and wildlife resources include increased erosion and sedimentation from construction; high flow releases or improper flushing schedules; turbidity and temperature changes; and gas supersaturation.

Under Section 401 of the Clean Water Act (33 U.S.C. § 1341(a)(1)) any applicant seeking a Federal license or permit for the construction or operation of facilities that may result in any discharge into the waters of the State shall not receive such a permit or license if certification has been denied by the State. State certification provides an important mechanism for State control, as States may set more stringent discharge requirements than those provided in the Clean Water Act and may require licensees to demonstrate compliance with these standards under Section 401. The intent of Section 401 is to give States veto power in the Federal licensing or permitting process over projects that may discharge waste into navigable waters.

The Board is the designated agency in California for the issuance of Federally required water quality certification (Cal. Water Code § 13160). Regulations have been adopted that implement the authority of the Board to issue such certification (23 Cal. Admin. Code § 3830 et seq.). Applications for water quality certification must be filed with the appropriate regional board and must include a full project description, a complete copy of the Federal application for whatever Federal license or permit is being sought, and a copy of any final environmental document prepared for the activity (23 Cal. Admin. Code §§ 3855-3856). If the regional board issues waste discharge requirements or waives the requirements, the applicant is notified that the regional board will not act upon the request for certification, and the request will be deemed waived. If the regional board recommends that certification be issued, the Executive Director of the Board will consider the recommendation and will approve or deny certification.

Regional boards cannot approve or waive action on requests for Section 401 certification until provisions of CEQA have been met (Cal. Pub. Res. Code § 21000 et seq.). CEQA requires that all State agencies consider the overall impact of activities that might damage or adversely impact the environmental resources of California. Prior to adopting or waiving waste discharge requirements, a regional board must either determine that the project is exempt from CEQA provisions or find that the appropriate environmental document has been prepared. This document will consist of either an initial study and a negative declaration, if all impacts can be mitigated to less than significant levels, or an environmental impact report (EIR). While the preparation of the initial study/negative declaration can be done in a relatively short time, the preparation of an EIR document can take up to a year, the same amount of time that is used to determine if an application for certification to a regional board is deemed waived. In May 1987, new regulations that have a profound effect on waiver of Section 401 certification requirements were adopted by FERC. Concerned that the States could indefinitely delay processing of requests for certification, FERC amended its regulations to provide that the one-year waiver period runs from the date the State agency responsible for certification receives such a request for certification. FERC's practice prior to the adoption of the new regulation had been to deem the period for waiver to commence when the certifying agency found the request complete and acceptable for processing.

Example. CEQA mandates that an environmental document be prepared before the regional board can act on an application for certification. Under FERC's previous practice, it was acceptable for regional boards and the Board to delay

processing of a Section 401 certification request until an adequate CEQA document was adopted, without having the request for certification deemed waived. The Board found that while CEQA compliance can often take longer than one year, the application of FERC's new rule in California could result in the waiver of many certification requests. To prevent a waiver for a group of about 40 FERC applicants whose requests could not be acted upon because of the lack of a CEQA document, the Board denied these requests on 30 April 1987, without prejudice, for those made prior to 31 December 1986. The applicants are entitled to resubmit their requests when an appropriate adequate environmental document has been prepared. This action protects instream flows by assuring that an environmental document relating to the proposed hydropower facilities would be completed before the period for State certification to be deemed waived or elapsed under the new FERC regulations.

Evaluation. The Section 401 permitting process provides a number of mechanisms for the State to preserve instream flows. The requirement for a complete environmental document can provide an in-depth assessment of instream flow requirements, allowing the Board to condition issuance of a State certificate on a requirement that the operation of a proposed hydroelectric facility include the preservation of instream flows. Similar requirements placed on water appropriation permits by the Board on the Bureau's operation of New Melones Dam were approved by the Court in California v. United States [438 U.S. 645, 98 S. Ct. 2985 (1978)]. The blanket approval of such projects by FERC's adoption of the new rule could have adversely affected the State's right and responsibility to achieve water quality objectives. The Board may also withhold certification until conditions are imposed on the licensee to release sufficient downstream flows to adequately protect water quality or beneficial uses.

Small Hydropower Project Permitting and Instream Beneficial Use Assessments

Opportunity. Environmentally compatible small hydroelectric projects are encouraged by the State. The requirement that such projects prepare an Instream Beneficial Use Assessment (IBUA) for the Board provides an excellent opportunity to evaluate streamflow regimes necessary to protect instream beneficial uses.

Background. The State of California supports and encourages the development of environmentally compatible small hydroelectric projects capable of producing up to 30 megawatts of electricity. "Environmentally compatible" means the projects do not cause significant environmental impacts or result in surface disturbances within any components of the National or California Wild and Scenic Rivers Systems, any river designated for study under the California or National System, any State or Federally designated wilderness area, or any areas designated as critical condor habitat (Cal. Water Code § 106.7).

The Board certifies and issues a water rights permit for the operation of a hydroelectric facility, and no certificate will be issued by the Board unless the applicant agrees in writing to comply with all terms and conditions of the permit (Cal. Pub. Res. Code § 26018(b)(1)). Certification can also be in the form of an opinion by the Board that the private energy producer possesses

riparian rights or other water rights that authorize the operation of the hydroelectric facility (Cal. Pub. Res. Code § 26013(b)(2)).

The Board has one year from the date a complete application has been filed in which to act. The application must include an IBUA (Cal. Water Code § 1250.5). An IBUA determines if unappropriated water is available and evaluates project effects upon existing instream beneficial uses. The Board may continue final action for a reasonable period, not to exceed one year, if additional time is needed to determine whether unappropriated water is available and the effect upon instream uses. An IBUA is not necessary if the applicant can demonstrate that the streamflow regime will not be changed. The Board has adopted regulations used to determine whether streamflows will be changed (23 Cal. Admin. Code § 709). Streamflow changes are determined by evaluating changes in flow rates and volumes, water temperatures, dissolved oxygen concentrations, and timing of water releases from any existing water diversion or storage facility. In addition to determining the extent of streamflow changes, the IBUA considers flow needs for fish, wildlife, and botanical populations and habitats, water quality, and recreational demands.

Evaluation. Similar to CEQA, the IBUA provides a procedural framework to develop information needed to ensure that adverse environmental impacts to instream water uses will be minimized. Such information will include studies of fisheries and streamflows. An IBUA is not an environmental document that satisfies CEQA requirements. If done correctly, however, the IBUA will provide the basis for the CEQA document, absent the CEQA requirement that alternatives and mitigation measures be considered. The Board must still prepare or consider appropriate CEQA documents when approving applications requiring an IBUA. An IBUA also provides an opportunity at the preproject phase to discuss with applicants the possible effects of a small hydroelectric project on fisheries and streamflows, with DFG participation at the preliminary assessment meetings.

Note: Some of the information in this section was obtained by personal communication with:

D. Albin, Environmental Specialist, State Water Resources Control Board, January 1988.

DREDGE AND FILL PERMITS

Opportunity

The Porter-Cologne Water Quality Act prohibits the discharge of dredged or fill materials into the waters of the State unless a permit is issued by the Board or a regional board. The permit may also impose conditions that protect instream flows during dam construction and prohibit the filling of wetlands.

Background

Section 13376 of the Porter-Cologne Water Quality Act (Cal. Water Code § 13000 et seq.) prohibits the discharge of dredged or fill materials into the navigable waters of the United States within the jurisdiction of the State

without filing a report of the discharge at least 180 days in advance with the appropriate regional board. The regional board must prescribe requirements, or conditions, on the discharge, even if no report has been filed (Cal. Water Code § 13263). The Porter-Cologne Water Quality Act implements the provisions of the Clean Water Act (33 U.S.C. § 1251 et seq.), which provides for permits that regulate the discharge of dredged and fill materials to the waters of the State (Cal. Water Code § 13370).

Section 404(h) of the Clean Water Act (33 U.S.C. § 1344(h)) provides States with authority to administer a permit program for the discharge of dredged or fill materials into waters that are not traditionally navigable. "Traditionally navigable" means those waters that are used "or susceptible to use in their natural condition or by reasonable improvement as a means to transport interstate or foreign commerce," including all waters subject to the ebb and flow of the tide, and adjacent wetlands (33 U.S.C. § 1344(g)(1)). States are not preempted from adopting their own programs that extend to all waters within the jurisdiction of the State (33 U.S.C. § 1344(t)). Where they do so, the U.S. Army Corps of Engineers (Corps) will continue to issue Section 404 permits in traditionally navigable waters.

Section 404 permits to discharge dredged or fill materials may impose conditions that relate to the maintenance of instream flows. Section 404(c) allows the Corps to evaluate permit applications to determine if the discharge will have an unacceptable adverse effect on fisheries, wildlife, or recreation areas. The Corps may authorize discharges resulting from certain activities, provided specified conditions are met. A Section 404 permit is required for the construction of dams, as dams fall within the definition of fill material (33 C.F.R. pt. 323.2(n)). Conditions included in Section 404 permits can mitigate the adverse effects of water development projects on fish and wildlife. There is, however, an exemption to the use of a Section 404 permit to impose conditions on water development projects. This exemption is limited to Federal projects specifically authorized by Congress and entirely planned, financed, and constructed by a Federal agency, such as the Corps or the Bureau (33 U.S.C. § 1344(r)). In order to obtain this exemption, the agency must prepare and present to Congress an adequate environmental impact statement pursuant to the National Environmental Policy Act (NEPA) that considers the relation of the project to guidelines of the Section 404 permit program.

The use of a Section 404 program can also protect wetlands from unauthorized filling or the unauthorized discharge of dredged spoils that may be used to replace wetlands. Many wetlands have been filled or drained indiscriminately to accommodate real estate or industrial development, with a resulting reduction in wetland acreage and wetland habitat values.

Evaluation

A Section 404 program, either administered by the Corps in waters that are traditionally navigable or by an approved State program, can protect instream flows and wetlands. Including conditions in dredge and fill permits to maintain streamflows provides an effective means to mitigate adverse effects of water development projects on fish and wildlife. The prohibition on placing fill material in wetlands protects and preserves wetland acreage and wetland

habitat values. This opportunity to protect instream flows is strengthened by civil penalty enforcement against those who violate the terms of a permit, ignore a lawful cease and desist order, or negligently discharge dredged or fill materials.

FISHERIES AND WILDLIFE MANAGEMENT

Stream Evaluation Program

Opportunity. The Department of Fish and Game can determine instream flow requirements through a Stream Evaluation Program in order to recommend minimum instream flows necessary to protect fish and wildlife.

Background. The Department of Fish and Game (DFG) established the Stream Evaluation Program in 1980 to evaluate and develop methods for determining flow requirements of the State's stream-dependent fish resources. A key objective of the program has been to define instream flow requirements for fisheries in order to maintain, protect, or restore them for the benefit of the people of the State. The Stream Evaluation Program's goals were affirmed and broadened when the Legislature adopted the Streamflow Protection Standards (also known as proposed streamflow requirements) (Cal. Pub. Res. Code §§ 10000-10004). This section directs DFG to identify stream resources that require the establishment of proposed flow requirements and to present the recommendations to the Board. In finding that requests to appropriate water had increased substantially, the Legislature declared that these requests could adversely affect, to a serious and significant degree, the fish and wildlife resources "if approved without due regard for their cumulative effect on streamflows, dependent on those streams and watercourses" (Cal. Pub. Res. Code § 10000(b)).

The Director of Fish and Game is required to "identify and list those streams and watercourses throughout the State for which minimum flow levels need to be established in order to assure the continued viability of stream-related fish and wildlife resources" (Cal. Pub. Res. Code § 10001). The Director of DFG "shall prepare proposed streamflow requirements, which shall be specified in terms of cubic feet of water per second, for each stream or watercourse identified" (Cal. Pub. Res. Code § 10002). These proposed requirements are to be considered by the Board when it establishes "such streamflow requirements as it deems necessary to protect fish and wildlife" by imposing terms and conditions on permits and licenses to appropriate water (Cal. Water Code § 1257.5). The Director of DFG, on his own motion or at the request of the Board, may review any streamflow requirements and propose revisions or modifications to the Board (Cal. Pub. Res. Code § 10003). The Legislature has directed DFG to initiate studies to determine streamflow requirements for streams for which funds have been appropriated.

Example. In March 1986, DFG released Stream Evaluation Report No. 86-1, titled "Instream Flow Requirements of the Lower American River, Sacramento County." The report was issued to assist the Board in determining the amounts of water to be left instream for purposes of fishery protection in the lower American River, as part of the dispute in Environmental Defense Fund v. East Bay Municipal Utility District [26 Cal.3d 183, 161 Cal.Rptr. 46 (1980)] (see

discussion at p. 41). The trial court has referred the case of EDF v. EBMUD to the Board for review and recommendation, primarily to determine the impact of EBMUD's proposed diversion of water via the Folsom-South Canal on the lower American River's fisheries.

The study segment was the lower American River, downstream of the Folsom Project's Nimbus Dam to its confluence with the Sacramento River. This 23-mile stretch of river, much of it through the City of Sacramento, sustains a diversity of recreationally and economically important fish and riparian resources. Water development, in particular, the Folsom Project (Folsom and Nimbus Dams), has substantially altered these resources, and proposed increases in water development could reduce or eliminate the fishery resources without a provision for adequate instream flows.

The report concluded that in determining the amounts of water to be left instream for the fishery, a range of flows encompassing optimum flow conditions should be developed for each life stage for fall-run chinook salmon and steelhead. These optimum flows were defined as those that mimicked the historic, postproject conditions that sustained fall-run chinook salmon since Folsom Dam was constructed. For example, a flow range of 3,000-6,000 cfs was identified as providing the optimum habitat conditions for salmon and steelhead rearing from 1 March to 1 July.

Evaluation. Although the Board has consistently considered instream flows for the preservation and enhancement of fish and wildlife, it has at times proven difficult to provide protection for an entire stream or stream reach when permit decisions are made on a case-by-case basis. The use of proposed streamflow protection requirements as prepared under the guidance of DFG provides a means to have before the Board instream flow requirements for fish and wildlife expressed in actual quantities. This will allow the Board to determine the amounts necessary to remain instream for the protection of fish and wildlife, as proposed by DFG, and to protect the fishery resources by imposing terms and conditions on permits and licenses to appropriate water.

The Stream Evaluation Program provides detailed information on fish and their habitats, presenting the best case for instream flow protection. Budget constraints, however, have hampered the effectiveness of DFG's ability to determine instream flow requirements for fish and wildlife. The Legislature determined that it will require a minimum of \$2 million annually to establish an effective program, while to date the State has allowed only \$500,000 on an annual basis for the program. The annual appropriations as suggested by DFG should be seriously considered so that the law can be effectively used as intended.

Stream and Streambed Alteration

Opportunity. Any activity that alters the stream or streambed by means of substantial diversion or obstruction of the natural flow is subject to modification by measures proposed by DFG to protect fish and wildlife resources (Cal. Fish & Game Code § 1603).

Background. Section 1600 of the California Fish & Game Code declares that the "protection and conservation of the fish and wildlife resources of this State are . . . of [the] utmost public interest." Whenever a local or State government agency or public utility undertakes any project that will "divert, obstruct, or change the natural flow or bed, channel or bank of any river, stream, or lake designated by the [Department of Fish & Game] in which there is an existing fish or wildlife resource or from which these resources derive benefit," such agency or utility must submit the general plan for construction to DFG (Cal. Fish & Game Code § 1601). If the existing fish and wildlife resource may be substantially affected in an adverse manner, DFG "shall notify the agency or public utility of the existence of such fish and wildlife resources . . . and . . . propose a reasonable modification in the proposed construction which would allow for the protection and continuance of the fish and wildlife resource, including procedures to review the operation of such protective measures" (Cal. Fish & Game Code § 1601). Should the parties not reach mutual agreement after negotiation of the proposal, the dispute shall be submitted to a panel of three arbitrators, subject to binding arbitration. The panel has the power to settle disagreements and make binding decisions regarding the fish and wildlife modifications to the proposal. The agency or public utility is not to commence the operation of proposed projects until DFG has found that such project will not substantially adversely affect the existing fish and wildlife resource, or until DFG's proposals or the decision of the arbitration panel has been incorporated into the project.

Section 1603 of the Fish & Game Code also prohibits activities of private persons that will "substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake," or use any material from the streambed until DFG has been notified of such. If an existing fish or wildlife resource would be "substantially adversely affected by such activity," DFG is to notify the person and propose modifications necessary to protect the wildlife. Section 1603 provides a procedure for binding arbitration similar to Section 1601, and also provides that it is unlawful for actions affected by Section 1603 to be commenced unless in "accordance with the department's proposals or the decisions of the panel of arbitrators."

The intent of Sections 1601 and 1603 has been strengthened through several court rulings. In Willadsen v. Justice Court of Oroville Judicial Dist. [139 Cal. App. 3d 171, 188 Cal. Rptr. 488 (1983)], the Court held that the provision of Section 1603 that prohibits changing the natural flow or the streambed without notifying DFG was not void for lack of public standards, as the "statutorily dictated policy of conservation of fish and wildlife resources" is a sufficient standard. The court in Willadsen also held that DFG has the proper authority to designate all streams, lakes, rivers, and streambeds, including intermittent streams, as those waters affected by the statutes. In Mega Renewables v. County of Shasta [644 F.Supp. 491 (E.D. Cal. 1986)] the court found that the provisions of § 1603 provide DFG with an opportunity to contribute expertise and information on how to mitigate the effect of hydro-electric projects on all rivers. A violation of Section 1603 "either by failing to notify the Department of a project, or by refusing to incorporate the Department's proposed modifications or the decision of the arbitration panel

into the project is a misdemeanor" [People v. Weaver, 147 Cal. App. 3d Super. 23, 197 Cal. Rptr. 521 (1983)].

Example. In Rutherford v. State [188 Cal. App. 3d 1267, 233 Cal. Rptr. 781 (1987)] a property owner was charged with violating Section 1603 by failing to file a notification with DFG when a streambed was substantially changed and the streambed altered. An agent of DFG observed heavy construction equipment that was substantially altering a natural streambed and diverting water from the stream. The court denied the plaintiff's challenge that the statute was unconstitutionally vague on its face and also rejected his contention that the statute was applied unconstitutionally.

Evaluation. While Sections 1601 and 1603 present significant opportunities to protect streams and streambeds, they may also present an opportunity to protect instream flows. Armed with a permit process of which a violation is criminally punishable, DFG has a significant role in determining proposals to protect fish and wildlife resources that are adopted by projects altering streamflows or streambeds. Binding arbitration ensures that DFG proposals will receive proper consideration. Strengthening the effectiveness of this opportunity is DFG's ability to seek criminal charges against a person or project that fails to notify DFG of the proposed stream alteration, or that fails to incorporate either DFG's proposals or the arbitration decision into the project.

Water Passage Through Fishways

Opportunity. The owner of a dam must allow sufficient water to pass through or over a dam or through a fishway to keep in good condition any fish that may exist below the dam (Cal. Fish & Game Code § 5937).

Background. The Department of Water Resources (DWR) has jurisdiction over all dams and reservoirs in the State, including the construction, enlargement, alteration, repair, maintenance, and operation of existing dams and the construction of any new dam (Cal. Water Code §§ 6075-6087, 6200). Construction of any new dam or reservoir or the enlargement of such shall not be commenced until DWR has approved the plans and specifications (Cal. Water Code § 6200). Whenever an application for approval of plans and specifications for a new dam or the enlargement of any dam in the State is filed with the DWR, the Fish and Game Commission is to be provided a copy and, if the Commission deems necessary, a hearing will be held concerning the construction of a fishway over the dam to preserve and protect fish (Cal. Fish & Game Code § 5933). DFG is required to examine all dams in all rivers and streams naturally frequented by fish on a periodic basis (Cal. Fish & Game Code § 5930), and if in its opinion there is not free passage for fish over or around a dam, DFG shall cause plans to be furnished for the construction of a fishway by such form and capacity as to be determined by DFG (Cal. Fish & Game Code § 5931). The owner of any dam upon which a fishway has been provided is obligated to keep the fishway in repair and open and free from obstructions to the passage of fish (Cal. Fish & Game Code § 5935).

DFG's authority to require bypass flows for the protection of fisheries is found in Section 5937 of the Fish and Game Code, which provides:

The owner of any dam shall allow sufficient water at all times to pass through a fishway, or, in the absence of a fishway, allow sufficient water to pass over, around, or through the dam, to keep in good condition any fish that may be planted or exist below the dam. During the minimum flow of water in any river or stream, permission may be granted by the Department to the owner of any dam to allow sufficient water to pass through a culvert, waste gate, or over or around the dam, to keep in good condition any fish that may be planted or exist below the dam, when in the judgment of the Department, it is impracticable or detrimental to the owner to pass the water through the fishway.

This Section protects and enhances fish resources by requiring sufficient bypass flows of water from all dams to maintain beneficial instream flows associated with the fishery resources. The Board has adopted regulations in compliance with the provisions of Section 5937. If a permit for appropriation of water by means of a dam does not have a specific provision for the protection of fish the Board requires the release of "sufficient water at all times to pass through a fishway, or, in the absence of a fishway, allow sufficient water to pass over, around, or through the dam to keep in good condition any fish that may be planted or exist below the dam" (23 Cal. Admin. Code § 762.5). Sections 5938 and 5939 of the Fish & Game Code allow for the provision of a hatchery in lieu of a fishway, if DFG finds it is impracticable because of dam height or other conditions to construct a fishway over or around the dam. This diminishes DFG's authority to enforce fishway construction at dams to protect instream flows.

Example. In California Trout, Inc., v. State Water Resources Control Board [201 Cal. App. 3d 552, 247 Cal. Rptr. 259 (1988)] the Court found that Section 5937 is a limit on the appropriation of water and conditions appropriation of water authorized by licenses issued after the effective date of the statute. At issue in the case was Section 5946 of the Fish & Game Code, which the Court found specifically applies so as to condition a license or permit that would appropriate all the water in the stream. Section 5946 forbids the issuance of a permit or license to appropriate water after 9 September 1953, in designated portions of Mono and Inyo Counties unless conditioned upon full compliance with Section 5937. The Court held that Section 5946 incorporates the provision in Section 5937 that requires the owner of a dam to release sufficient water at all times to keep in good condition any fisheries below the dam. By incorporating these requirements, Section 5946 gives priority to the uses specified in Section 5937.

The action before the court "stems from a long history of actions taken by the City of Los Angeles to appropriate the water of creeks, tributary to Mono Lake, and of the Owens River for the domestic use of the city and for the generation of electricity." Prior to the beginning of water diversion from Lee Vining, Walker, Parker, and Rush Creeks, each had good trout populations, sustained almost entirely by natural propagation. The plaintiffs in the case claimed that the licenses for the diversion of virtually all of the water in these creeks tributary to Mono Lake were in violation of the Section 5946 requirement. The Court directed the Board to conduct proceedings for revocation of the licenses, subject to its authority to reissue them consistent with Section 5946.

Evaluation. The enactment of statutory provisions to provide for fishways, where water is impounded by a dam, reflects the recognition of threats by dams or other river obstructions posed to anadromous fish and other fish species. Water development projects designed to meet the need of agricultural, domestic, and industrial uses have had adverse impacts on the State's fisheries by blocking migratory fish or altering stream ecology, making rivers unsuitable for certain fish species. The end result of the modification of natural stream systems has been to eliminate or greatly reduce valuable instream fisheries. Section 5937 has great potential to protect instream flows and maintain fish resources; however, the lack of funds and staff necessary for its enforcement hinders its effectiveness. In addition, an argument can be made that Section 1243 of the Water Code, which requires the Board to "take into account . . . the amounts of water required . . . for the preservation and enhancement of fish," based on the recommendation of DFG, is the proper and customary method of protecting the instream flows necessary for maintaining fisheries. The better argument, however, is that section 5937 should stand alone, allowing DFG to dictate minimum flows necessary to keep in good condition fisheries that may exist below dams.

California Endangered Species Act

Opportunity. Proposed water diversion or impoundment projects that might jeopardize threatened or endangered species or adversely modify essential habitat are prohibited by the California Endangered Species Act. Instream flows and wetland uses of water could be protected when projects that jeopardize threatened and endangered species are required to minimize adverse impacts on the species.

Background. The California Endangered Species Act (CESA) (Cal. Fish & Game Code §§ 2050-2098) finds that certain species of fish, wildlife, and plants are threatened with extinction because their habitats are threatened with destruction, adverse modification, severe curtailment, exploitation, disease, predation, and other factors. The "conservation, protection, and enhancement of these species and their habitat is of statewide concern" (Cal. Fish & Game Code § 2051(c)). Section 2053 of CESA finds and declares that it is the policy of the State that State agencies shall not approve proposed projects that would:

[J]eopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available consistent with conserving the species or its habitat which would prevent jeopardy.

Projects may be approved if specific economic, social, or other conditions make alternatives infeasible if appropriate mitigation and enhancement measures are provided (Cal. Fish & Game Code § 2054). DFG is to consult with State agencies and shall issue findings based on its determination of whether a proposed project would jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of essential habitat (Cal. Fish & Game Code § 2090). If jeopardy is found, CESA allows the approval of a proposed project by State agencies if specific

economic, social, or other conditions make alternatives infeasible (Cal. Fish & Game Code § 2092). Two conditions must be met. First, "reasonable mitigation and enhancement measures as are necessary and appropriate to minimize the adverse impacts of the project" are required [Cal. Fish & Game Code § 2092(b)-(1)]. Second, there must be an irreversible or irretrievable commitment made to the project. The benefits of the proposed project must outweigh the benefits of the project implemented with reasonable and prudent alternatives that prevent jeopardy to the endangered or threatened species (Cal. Fish & Game Code § 2092(b)(2)). However, if a proposed project is likely to result in the extinction of any endangered or threatened species, CESA prohibits a State agency from approving the project (Cal. Fish & Game Code § 2092(c)).

The Fish and Game Commission has established lists of endangered species and threatened species as defined by CESA. Any interested person may petition the Commission to add a species to, or remove a species from, either list (Cal. Fish and Game Code § 2071). The petition action must be scientifically documented to warrant action with information on "population trend, range, distribution, abundance, and life history of a species, the factors affecting the ability of the population to survive and reproduce, the degree and immediacy of the threat, the impact of existing management efforts, suggestions for future management," and the kind of habitat necessary for species survival, and any other factors deemed necessary by the petitioner (Cal. Fish and Game Code § 2072.3).

Example. The Sacramento River Preservation Trust (Trust) has petitioned the Fish and Game Commission to list winter run chinook salmon as a threatened species under the provisions of CESA. Such listing would preclude decisions by either the Board, DWR, or the Bureau from operating projects in a manner that would adversely affect the winter run chinook salmon fishery and habitat on the Sacramento River. The Commission, while finding that the petition provided sufficient information, rejected it. The Trust filed a lawsuit to require the Commission to list the petitioned species as a candidate species if the petition is found to warrant action. The trial court entered judgment for the Trust and the parties stipulated to the court's judgment [Sacramento River Preservation Trust v. California Fish & Game Commission, No. 353874 (Order dated 18 Feb. 1988)]. The accepted petition is being evaluated to determine if action is warranted to list the winter run chinook salmon as a threatened species (Cal. Fish & Game Code § 2074.6).

If the winter run chinook salmon were to be listed as a threatened species, it would be protected from "taking" under CESA (Cal. Fish & Game Code § 2080). This protection may also enhance and protect instream flows. For example, the Anderson Cottonwood Irrigation District diversion facility requires that it be opened or closed manually to receive water at its point of diversion. The district has an informal agreement with the Bureau in which the Bureau reduces flows upstream from this point of diversion so that workers can safely open or close the headgate. The Trust alleges that this lowering of the water level adversely affects the winter run chinook salmon, and that this action constitutes a "taking" by the Bureau. If the salmon were listed, such fluctuations in the water level would be prohibited.

Evaluation. The ability to protect instream flows through the use of CESA does not necessarily mean that every proposed project that jeopardizes the continued existence of an endangered or threatened species or its habitat will be prohibited. The consultation requirement of the Act provides for early project modification, relocation, or abandonment and requires the lead State agency to consider the mitigation measures and alternatives as proposed by DFG. Consultation for projects that may jeopardize endangered or threatened species is required by both CESA and Section 21104.2 of the California Environmental Quality Act. An agency proposing a project may reasonably mitigate and provide for enhancement measures as necessary and appropriate to minimize adverse project impacts upon endangered or threatened species or habitat. Even when jeopardy is found such mitigation allows a proposed project to be approved. However, a project will not be approved if the project would likely result in the extinction of an endangered or threatened species based on a determination of the best existing scientific method (Cal. Pub. Res. Code § 2092(c)). Wetlands and other habitat types are protected by CESA incidentally when endangered or threatened species are protected. CESA can be used to protect such habitat from adverse impacts including habitat enhancement and acquisition (Cal. Fish & Game Code § 2092(b)(1)).

Acquisition of Land and Water, Including Rights

Opportunity. DFG may acquire land, rights in land, water, and water rights essential to fish and wildlife habitat to preserve instream flows and wetland uses of water.

Background. DFG may acquire lands, rights on land, water, and water rights to carry out the purposes of the Wildlife Conservation Act of 1947 (Cal. Fish & Game Code § 1300 et seq.). The Act reflects the policy of the State to acquire and restore to the highest level possible those areas that can be used successfully to sustain wildlife and provide recreation. The Act establishes a coordinated program to acquire lands suitable for recreational purposes, "adaptable for conservation, propagation, and utilization of the fish and game resources of the State" (Cal. Fish & Game Code § 1301). The Wildlife Conservation Board within DFG is empowered to investigate, study, and determine what areas within the State are most essential for wildlife production and preservation, and may authorize the acquisition of such lands, rights in land, water, and water rights by DFG as necessary to carry out the purposes of the Act (Cal. Fish & Game Code §§ 1345, 1348). DFG may also establish ecological reserves, which are those land or land and water areas that are to be preserved in a natural condition for the benefit of the public and for scientific study (Cal. Fish & Game Code § 1580). These areas can be obtained by DFG through purchase, lease, gift, or rental.

Example. The Wildlife Conservation Board (WCB) was directed to conduct an inventory, by 1 January 1988, of the Sacramento River between Keswick Dam and the confluence with the Feather River (the upper Sacramento River) to identify and prioritize lands valuable to fish and wildlife (Cal. Fish & Game Code § 1385-1388). This inventory was to take special efforts to identify lands that provide a source of salmon spawning gravels or lands otherwise important to anadromous and resident fisheries; habitat for rare, threatened, or endangered species; and riparian habitat or an opportunity for the reestablishment of such

habitat. In addition, the inventory was to identify owners of high priority riparian lands who might be willing to sell their property to the State (Cal. Fish & Game Code § 1387).

The resulting document, the Sacramento River Riparian Atlas, was prepared for the WCB by the Nongame-Heritage Program of the California Department of Fish and Game. In compiling the data the WCB let separate contracts for each category of biological data (sources of salmon spawning gravels; habitat for rare, threatened, or endangered species; riparian habitat; potential riparian habitat) and superimposed the results of these studies on a series of aerial photographs of the study area. The end product integrates the biological data and information on property ownership, and identifies high priority areas for fish and wildlife.

By 1 January 1989, the Upper Sacramento River Fisheries and Riparian Habitat Advisory Council, a council consisting of State, county, private, commercial, and Federal interests, was to submit to the Legislature a management plan concerning the upper Sacramento River, tributary streams, and associated riparian habitat. This plan is needed as part of "the orderly development of the water resources of the Sacramento River Basin for all beneficial uses" (Cal. Fish & Game Code § 14001(e)). The objective of the management plan is to identify actions that will restore and enhance fish and riparian habitat and associated wildlife, and to establish a series of priority actions within specified time frames, estimated costs and benefits, and proposed funding sources (Cal. Fish & Game Code § 1406). In authorizing the plan the Legislature has declared that the Sacramento River system has "tremendous social, environmental, and economic value to the people of California for many consumptive and nonconsumptive beneficial purposes" and that it is necessary that the State's largest producer of several species of fish and "the source of much of the migratory bird population of the Pacific Flyway" be protected (Cal. Fish & Game Code § 1400).

Another example is the Keene-Nielsen Fisheries Restoration Act of 1985 (Cal. Fish & Game Code § 2760 et seq.), for which the Fisheries Restoration account was established in the Fish and Game Preservation Fund. Five million dollars was appropriated for the fiscal year 1988-89, and similar subsequent transfers to the Fisheries Restoration Account are to be made in the annual budget acts at least until fiscal year 1990-91. Section 2762(b) of the Fish and Game Code provides that the monies are to be used for the construction, operation, and administration of projects designed to restore and maintain fishery resources and habitat that have been damaged by water diversions and water development projects. Such restoration projects may include land acquisition and habitat restoration. A source of funding is the Fish and Wildlife/Habitat Enhancement Fund of 1984, which provided \$40 million for the acquisition of wetland habitat by the Wildlife Conservation Board (Cal. Fish & Game Code § 2600). One-fourth of the fund was dedicated to the acquisition of coastal wetlands, with the remainder for inland wetlands. Approximately 2,000 acres of coastal wetlands and 25,000 acres of inland wetlands have been acquired in fee with monies provided by the fund.

Evaluation. The Upper Sacramento River Fisheries and Riparian Habitat and Management Plan is an established opportunity to protect, restore, and

enhance fish, wildlife, and their habitats, and illustrates one aspect of DFG's ability to protect instream flows and acquire wetlands. The true test of the effectiveness will be the actions of the Legislature to adopt any proposed plan of implementation submitted by the advisory council and provide the funding necessary to carry out the proposed plan. Wetlands acquisition by the Wildlife Conservation Board provides an important link in instream flows by protecting vital fish and wildlife habitat. Although the 1984 Bond Act was a one-time measure, the effectiveness of the acquisition program has resulted in the proposed California Wildlife, Coastal, and Park Land Conservation Act. The Act was approved by the voters in June 1988, is incorporated into the Public Resources Code, and provides some \$81 million to be used in conjunction with the Wildlife Conservation Act of 1947.

Note: Some of the information in this section was provided by personal communication with:

- L. Eng, Environmental Services, California Department of Fish and Game, January 1988.
- J. Schmidt, Wildlife Conservation Board, California Department of Fish and Game, January 1988.
- J. Turner, Environmental Services, California Department of Fish and Game, January 1988.

LOCAL AND REGIONAL PLANNING

Local and Regional Plans

Opportunity. City and county planning agencies are to prepare a comprehensive, long-range plan for development in which the protection of instream flows may be considered.

Background. City and county planning agencies are to prepare and adopt a comprehensive, long-term general plan for the physical development of the city or county (Cal. Gov. Code § 65300). Conservation is included among the elements to be considered by the planning agency, as are water pollution prevention and control, watershed protection, and flood control (Cal. Gov. Code § 65302). The conservation element also includes "the conservation, development, and utilization of natural resources including water, its hydraulic force, rivers and other waters, fisheries, and wildlife." The Department of Water Resources and the Department of Fish and Game may assist in site development, design, and planning policies that would assist the local agencies in implementing guidelines for meeting flood control objectives and other land management needs (Cal. Gov. Code § 65303.4).

DWR and DFG involvement in local planning is illustrated by the Urban Creek Restoration and Flood Control Act, Section 7048 of the Water Code. The Director of Water Resources may establish a program of flood control and urban creek restoration under which DWR can respond to requests from local planning agencies for planning and design assistance for low-cost and effective urban

creek protection, restoration, and enhancement. DWR is to coordinate this program with DFG during the formulation of guidelines and project planning for the development, protection, restoration and enhancement of urban creeks. Additionally, DFG is to be consulted on "project criteria which may include economic, environmental, and social benefits to be achieved" (Cal. Water Code § 7048(c)).

The Urban Stream Restoration Program began in 1985 when a coalition of local water management districts, neighborhood organizations, sport fishing alliances, environmental groups, service organizations, and city and county governments sponsored the creation of a new urban stream restoration and flood control program. Program objectives are to assist communities in reducing damages from streambank and watershed instability and floods while restoring the environmental and aesthetic values of streams, and to encourage stewardship and maintenance of the streams by the community. Counties, cities, and non-profit organizations are eligible to receive grants from the program. Environmental resources must be restored and watersheds stabilized or flood control measures demonstrated to qualify for a grant.

Example. One aspect of the Urban Stream Restoration Program has been to encourage the restoration of the natural equilibrium of a stream that may have been disturbed by land use activities and channelization. By incorporating fluvial characteristics such as low-flow channels, floodplains, meandering channels, and pool and riffle sequences into the design of channel modification projects, the stream can be stabilized. For example, pools and riffles maintain a natural sorting of bed-load materials, facilitate a diversity of streambank vegetation, and provide necessary habitats for the feeding, breeding, and cover of instream life.

The Monterey Peninsula Water Management District used extensive willow plantings along the riparian corridor of the Carmel River to help stabilize the river's meanders. By working to restore the river's fluvial equilibrium by redirecting the flows along a former, stable alignment, the District reduced the potential of flooding, which endangered homes and other property in the past.

Evaluation. Consultation by local planning agencies with DWR and DFG allows input into general plans, provides opportunities to protect vital habitat and resources, and also enhances aesthetic and recreational opportunities for the city residents. As population demands place more and more pressure on scarce habitat, the existence of fish, wildlife and water quality considerations in general plans provides a small but vital step towards the protection and enhancement of instream flow values associated with fish and wildlife. The Urban Stream Restoration Program also provides an opportunity for public education and involvement in the issues that are involved with the protection of instream flows, allowing for a better educated electorate on water issues in general and instream flows in particular.

San Francisco Bay Conservation and Development Commission

Opportunity. Development restrictions and controls, encompassing many different city and county governments in the environmentally sensitive bay area, provide opportunities to protect instream flows and wetland uses of water.

Background. In 1965, the California Legislature passed the McAteer-Petris Act, which established the San Francisco Bay Conservation and Development Commission (BCDC) (Cal. Gov. Code § 66600 et seq.). The Legislature declared that it was in the public interest that the San Francisco Bay be protected as the most valuable single natural resource of the entire region and that this interest required that a politically responsible democratic process be established so that the bay and its shoreline could be analyzed, planned, and regulated as a single unit (Cal. Gov. Code § 66600).

The BCDC is empowered to "issue or deny permits, after public hearing, for any proposed project that involves placing fill, extracting materials or making any substantial change in use of any water, land, or structure within the area of the commission's jurisdiction" (Cal. Gov. Code § 66604). The BCDC has authority to grant or deny any request for permission to fill bay lands, and this authority extends to fill land within a reclamation district if that land is otherwise within the jurisdiction of the BCDC [Candlestick Prop., Inc. v. San Francisco Bay Conserv. and Development Com'n, 11 Cal. App. 3d 557, 89 Cal. Rptr. 897 (1970)]. This power to regulate filling of the bay extends to holding a landowner responsible for unauthorized bay fill placed on its property by unknown persons [Leslie Salt Co. v. San Francisco Conserv. and Development Com'n, 153 Cal. App. 3d 605, 200 Cal. Rptr. 575 (1987)].

Example. The Suisun Marsh consists of about 55,000 acres of marshland and 30,000 acres of bays and sloughs, which is almost 30 percent of the remaining natural wetlands in California. The marsh also provides important wintering habitat for waterfowl of the Pacific Flyway and critical habitat for endangered, rare, or threatened species. Finding that the Suisun Marsh is a unique and irreplaceable resource to the people of the State and the region and that future development could adversely affect the wildlife value of the area, the Legislature declared that it is State policy to preserve and protect the marsh (Cal. Pub. Res. Code § 29002). The BCDC and the Department of Fish and Game have made a detailed study of Suisun Marsh, involving extensive participation by other governmental agencies, private interests, and the general public. Based on this study, the Suisun Marsh Protection Plan "for the orderly and long-range conservation, use, and management of the natural, scenic, recreational, and manmade resources of the marsh" has been created (Cal. Pub. Res. Code § 29004). The plan contained a series of recommendations that were implemented by the Legislature in the Suisun Marsh Preservation Act of 1977 (Cal. Pub. Res. Code § 29000 et seq.). To ensure maximum State and Federal conformity with the act, and to achieve the goals of the Act through local government and local land use planning procedures and enforcement, the Legislature found that it was appropriate to provide for the continued State planning and management of the marsh through the BCDC (Cal. Pub. Res. Code § 29005).

The Legislature found that there is a need to establish and maintain adequate water quality, improve present water management practices, provide for future supplemental water supplies and related facilities, and define and establish "a buffer area consisting of upland areas that have high wildlife values themselves and also contribute to the integrity and continued wildlife use of the wetlands within the marsh" (Cal. Pub. Res. Code § 29003). The Act directs the Wildlife Conservation Board to acquire land as it finds appropriate in accordance with the Wildlife Conservation Law of 1947. A marsh development

permit is required by any person wishing to perform or undertake any development within the marsh, in addition to any other local, State, or Federal permits (Cal. Pub. Res. Code §§ 29500-29506).

In Decision 1485, the Board adopted salinity standards for Suisun Marsh that apply to appropriations of water by the CVP and the SWP and provide instream flows to protect fish, wildlife, and habitat in the marsh. While the decision in United States v. State Water Resources Control Board [182 Cal. App. 3d 82, 227 Cal. Rptr. 161 (1986)] directed the Board to consider the effects of all users of water on the salinity problem in the marsh and the delta, agreements between the various parties are working to protect Suisun Marsh. DWR, the Bureau, and the Suisun Resource Conservation District have entered into contracts that include salinity standards. These standards have been adopted by the Board. In addition, the contracts provide for the construction of facilities to improve water quality and protect wildlife habitat.

Evaluation. The Suisun Marsh Preservation Act establishes a method to protect wildlife resources by establishing a regional plan of protection and land-use planning. Potentially adverse development of the marsh is regulated to an extent by the BCDC permitting process. However, although the plan imposes a judicially enforceable duty on State agencies to comply with the policies of the protection plan, it does not require any agency of the State or Federal Government to obtain permits (Cal. Pub. Res. Code § 29302(b)). Also of great consequence to the protection of instream flows and wetland uses of water, nothing contained in the plan requires local, State, or Federal agencies to establish or meet a specific water quality standard in the marsh, or to maintain a specific level of delta outflow (Cal. Pub. Res. Code § 29302(c)).

In the Bay-Delta hearings in which the Board is examining ways to establish salinity standards and instream flow requirements, DWR, the Bureau, and the Suisun Resource Conservation District supported agreements between them that address the salinity problem before the Board. These hearings by the Board will determine the extent to which permits and licenses of the CVP, SWP, and others can be conditioned to protect the marsh; the decision in United States v. State Water Resources Control Board indicates that it is legally permissible to do so for the purpose of meeting water quality objectives.

STATEWIDE LAND USE PLANNING

Watershed Protection and Area of Origin Statutes

Opportunity. A watershed or area where a water supply originates shall not be deprived of the prior right to use water reasonably required to satisfy the beneficial uses of the area, thus providing an opportunity to protect instream flows.

Background. Watershed and area of origin protective legislation was enacted during the formative years of the major water development projects to alleviate fears of Northern California that water supplies for the local areas would be depleted. Section 10505 of the Water Code was enacted to prohibit DWR from assigning appropriative rights that would deprive the area of origin of

water necessary for its development [United States v. State Water Resources Control Board, 182 Cal. App. 3d 82, 138, 227 Cal. Rptr. 161, 193 (1986)]. In 1969, Section 10505.5 was added "which expanded the concept to include any appropriation application, permit, or license." While the area of origin statutes apply to State applications, legislation was subsequently adopted that applied to appropriations made for the CVP. Thus, whenever DWR makes and files applications for water that in its judgment is or may be required for any coordinated State plan that uses or conserves waters, any permit or license issued shall not authorize the use of any water outside the area of origin.

The Watershed Protection Act was enacted at the same time as legislation that authorized construction of the CVP. Section 11460 of the Water Code provides that:

[A] watershed or area wherein water originates, or an area immediately adjacent thereto which can conveniently be supplied with water therefrom, shall not be deprived . . . directly or indirectly of the prior right to all of the water reasonably required to adequately supply the beneficial needs of the watershed area, or any of the inhabitants or property owners therein.

The watershed and area of origin statutes are construed as having a common purpose: to reserve to the areas of origin an undefined preferential right to future water needs [United States v. State Water Resources Control Board, 182 Cal. App. 3d 82, 1140, 227 Cal. Rptr. 161, 194 (1986), citing 25 Op. Atty. Gen. 8 (1955)]. As these undefined needs develop, an application to appropriate water must be made and "[t]he Board must issue the permit despite the needs of the projects, and the water projects must honor the vested water right thus created."

In connection with Federal flood control and watershed protection projects, the enhancement of fish and wildlife values and recreational development "should be among the purposes . . . and the opportunities to attain these benefits should be realized concurrently with the realization of benefits from other project purposes" (Cal. Water Code § 12841). Planning and construction of all flood control and watershed protection projects shall include such features as deemed necessary to preserve and enhance the fish, wildlife, and recreational opportunities (Cal. Water Code § 12842).

Example. The case of County of Trinity v. Andrus [438 F. Supp. 1368 (E.D. Cal. 1977)] illustrates an attempt to use the watershed protection and area of origin statutes as a means to preserve instream flows for fishery purposes. The Trinity River, located in the north-coastal area, historically has provided excellent habitat for large numbers of salmon and steelhead trout. As part of the CVP, the Trinity River was dammed, and its impounded water was diverted into the Sacramento River drainage basin. Approximately 85-90 percent of the annual historic flow of the Trinity is diverted into the Sacramento River to increase water supplies in other areas of the State. The remaining flows have been released into the Trinity River for fish conservation purposes. As set forth in an agreement between DFG and the Bureau, 120,000 acre-feet annually is to be released into the Trinity River for fishery purposes.

In 1973, DFG recommended that annual flows be increased on an experimental basis to a total of 315,000 acre-feet, concentrating most of the increase in the months of May and June to simulate the natural snowmelt conditions. This flow increase experiment was agreed to by the Bureau for a 3-year period beginning in 1974, but was interrupted by the onset of drought conditions in 1976 when only 126,000 acre-feet were released. In anticipation of a second consecutive drought year, the Bureau implemented a Dry-Year Operations Policy for 1977 and reduced the annual release for the year to the 120,000 acre-feet as required by the original agreement.

The County of Trinity filed a suit seeking to require the Bureau to release sufficient amounts of water to sustain the Trinity River fish populations. The need to increase flow releases to the Trinity River was based on the claim that the United States had no right to divert the water in question under California water law. The plaintiffs specifically relied on the provisions of both the Watershed Protection Act and the area of origin statutes (County of Trinity v. Andrus, 438 F. Supp. at 1374). The Court found that a threshold question to be answered was to what extent the State-created restrictions of the area of origin statutes and the Watershed Protection Act would be binding on the United States. In answering this, the Court held that the statutes created substantive rights that could not be disregarded by the Bureau, but stated that "State agencies may not guard such rights by means of permit conditions or other enforcement devices which interfere with the operation and control of Federal facilities" [438 F. Supp. at 1385]. The Court was reluctant to allow the State to be involved in "control of a significant portion of the Bureau's operational planning on a yearly basis."

The Ninth Circuit Court of Appeals has held differently on the issue of California's ability to protect uses of water in areas where the water originates. In United States v. State of California, State Water Resources Control Board [694 F.2d 1171 (9th Cir. 1982)] the Court found that all of the conditions imposed by the State Board in Decision No. 1422 on the Bureau of Reclamation were consistent with the congressional directives of New Melones Dam. In Decision No. 1422, the Board required that the New Melones Project serve California's water quality goals and also required the project to abide by the area of origin preference of State water law. The Court, finding that the water quality and county of origin preference conditions were analytically similar, held that both types of conditions "far from working against congressional purposes, lead to results anticipated, and apparently encouraged, by Congress" (694 F.2d at 1181). Not only did the legislation authorizing the New Melones Project require that consideration be given to the regulation of streamflow for the purpose of downstream water quality, but also the Court found that "the Secretary of the Interior shall determine the quantity of water required to satisfy all existing and anticipated future needs within that basin and the diversion shall at all times be subordinate to the quantities so determined."

Undoubtedly, the Ninth Circuit decision was influenced by the landmark holding in California v. United States [438 U.S. 645, 98 S.Ct. 2985 (1978)], where the Supreme Court held that Federal agencies are obliged to follow State law in the appropriation, distribution, and use of water.

Evaluation. The use of the Watershed Protection Act and area of origin statutes as a means to protect instream flows may have seen a substantial boost in effectiveness with the decision in United States v. State of California State Water Resources Control Board [182 Cal. App. 3d 82, 227 Cal. Rptr. 161 (1986)], an important milestone since the efforts of Trinity County to protect the fishery on the Trinity River were so soundly rejected. At the time the decision was handed down in County of Trinity v. Andrus, DFG had not yet begun its Streamflow Evaluation Program. As the Court stated in County of Trinity v. Andrus, had the county "demonstrated the amounts of water necessary to increase fish populations, [the provisions of the Watershed Protection Act] might well require that those amounts be released" (438 F.Supp. at 1386).

The use of proposed streamflow protection requirements as recommended by DFG to the Board together with the Board's power and duty to impose conditions on permits to appropriate water would provide the necessary clout to make the watershed protection and area of origin statutes an effective means to protect instream flows. In addition, the possibility that future decisions will be made to account for instream flows is supported by the Board's public trust duty, as exemplified in National Audubon Society v. Superior Court and United States v. State of California, State Water Resources Control Board, which indicate that past allocations of water may be modified to protect public trust resources such as fisheries.

Note: Some of the information in this section was provided by personal communication with:

J. Kramer, Office of the Chief Counsel, Department of Water Resources, January 1988.

J. Turner, Environmental Services, California Department of Fish and Game, January 1988.

WETLANDS PRESERVATION, PROTECTION, RESTORATION, AND ENHANCEMENT

Opportunity

Instream flows are considered an integral component necessary to preserve, protect, restore, and enhance many wetland areas within the State. An active policy that protects and enhances wetlands should protect instream flows.

Background

Wetlands are transitional areas between aquatic and terrestrial environments. These areas generally are lands where water saturation is the dominant factor determining the nature of soil development and animal and plant communities. Much diversity exists in wetlands, from unique vernal pools replete with their highly individualized and specific plant and animal populations, to areas such as the Suisun Marsh, which contains almost 30 percent of the remaining wetlands in the State. Water supply may be impermanent or intermittent, thus shaping the nature of wetlands, but most depend on a consistent source of water, be it seasonal, periodic, or permanent. One of the

most significant contributions of wetlands is to the maintenance of fish and wildlife populations. Wetlands also play important and, until recently, overlooked roles in controlling floodwaters, recharging aquifers, and reducing water pollution by acting as a filter for upland runoff. Wetlands are also prime candidates for conversion to farmlands or for development due to land use pressures. There are about 500,000 acres of wetland acreage in California.

In California, the definition of wetlands developed by the U.S. Fish and Wildlife Service is used to identify and classify wetlands (Cowardin et al. 1979). It provides that:

Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification wetlands must have one or more of the following three attributes: (1) at least periodically, the land support predominantly hydrophytes; (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of each year.

DFG considers this wetland definition and classification system to be the most biologically valid system, as it provides a degree of consistency and uniformity that is advantageous to biological planners, as well as developmental planners.

In 1976, the California Legislature enacted the Keene-Nejedly California Wetlands Preservation Act (Cal. Pub. Res. Code § 5810 et seq.). The Legislature found that the remaining wetlands of the State are of "increasingly critical economic, aesthetic, and scientific value" and that there is a need for "an affirmative and sustained public policy and program directed at their preservation, restoration, and enhancement" (Cal. Pub. Res. Code § 5811). The Fish and Game Commission, the Department of Fish and Game, the Department of Parks and Recreation, and the State Lands Commission are given powers and duties under the Act, which are advisory rather than regulatory. Joint studies conducted by the DFG and the Department of Parks and Recreation are to set forth a "plan for the acquisition, protection, preservation, restoration, and enhancement of wetlands, including funding requirements and the priority status of specific proposed wetlands projects." Particular recognition is to be given to the conservation, recreation, and open-space plans and programs of local agencies and opportunities to protect and preserve wetlands lying within or adjacent to the State park system, including the "acquisition of areas in proximity to State park system units that lend themselves to feasible wetlands management" (Cal. Pub. Res. Code §§ 5815-5816). Either of the departments may acquire interests in real property less than full fee title, including, but not limited to, the acquisition of development rights (Cal. Pub. Res. Code § 5813). Either department may also enter into operating agreements for the management and control of wetlands, or interests in wetlands, with cities, counties, and districts as long as such agreements ensure the protection and preservation of wetlands (Cal. Pub. Res. Code § 5817).

The Legislature, in recognition of the importance of wetlands, has indicated an "intent to preserve, protect, restore, and enhance California's

wetlands, and the multiple resources that depend on them, for the benefit of the people of the State (Senate Concurrent Resolution 28, 1 January 1983). The desire of the Legislature is that wetland habitat acreage be increased by 50 percent by the year 2000.

The Fish and Game Commission has adopted a policy to protect, preserve, restore, enhance and expand wetland habitat and associated fish and wildlife resources in the State. The Commission has adopted this policy because it believes the regulatory power provided by the Keene-Nejedly Act inadequate to provide for the protection of wetlands in the State. It is the policy of the Commission and DFG to oppose projects that would result in a net loss of either wetland acreage or wetland habitat values. This policy revolves around the maintenance of both wetland acreage and wetland habitat values. This policy recognizes that wetlands provide significant and essential habitat for a variety of resident and migratory fish and wildlife species, and strongly discourages development in or conversion of wetlands. The Commission will oppose proposals to develop wetlands, unless there is mitigation that would achieve expansion of wetland acreage and enhancement of wetland habitat values. This preference for "no net loss" is the basis of the Commission's wetland policy.

The wetland policy of the Commission is concerned with both the protection of wetland acreage and wetland habitat value. Where wetland acreage would be unavoidably lost, no less than an equal acreage of nonsensitive upland must be converted to wetland status so that no net loss of wetland acreage would result from project implementation. Where a project would negatively impact wetland habitat values (whether or not wetland acreage would also be lost), these habitat values must be offset either through enhancement of existing wetland (where the project would not reduce wetland acreage) or through the incorporation of compensatory habitat values into the requisite wetland creation site (where the project would result in loss of both wetland acreage and wetland habitat values). DFG has recommended "no net loss" of wetlands and has sought to mitigate any unavoidable adverse impacts for over two years.

Although implementation of the Commission's wetlands policy is not a regulatory program, strong support for implementation of the policy is found in CEQA, which requires that every development proposal to be approved by a State or local agency must be analyzed to determine the potential environmental effects of the development. Such an analysis is required by law to include alternatives to the proposed action and mitigation measures if the development would unavoidably impact the environment in an adverse manner.

Example

An example of successful implementation of the wetlands resources policy is the Los Ritos wetlands project in Long Beach, where the Department, prior to the development of a project, identified 129.5 acres of wetlands that would be adversely impacted within an overall 263-acre site. The plan ultimately approved for the Los Ritos Wetlands requires the retention of not less than 129.5 acres of wetlands. Another example is that of the Famosa Slough/Famosa Channel project, where 20.4 acres of wetland acreage and associated wetland values will be protected through the creation of compensatory wetland areas and implementation of an overall restoration plan.

Evaluation

By protecting, preserving, and enhancing wetland acreage and habitat values, instream flows are enhanced in those wetland areas that require a consistent source and supply of water. The wetlands resources policy of the Fish and Game Commission requires active opposition of DFG to projects that include any development or conversion that results in a reduction of wetland acreage or wetland habitat values. DFG recognizes that, in light of the nonregulatory nature of the policy, it is essential to work closely with local planning agencies and various State and Federal governmental entities. This cooperation, combined with the ongoing acquisition of wetlands by the Wildlife Conservation Board, provides opportunities to protect, preserve, restore, enhance, and expand wetland acreage and habitat values. The inclusion of mitigation measures as proposed by DFG when opposing an action to develop wetlands or land adjacent to wetlands is routinely included by developers in an adequately prepared CEQA document. CEQA requires project mitigation measures if the project has a significant impact on environmentally sensitive areas such as wetlands. The concept of wetlands protection must be embodied at the local planning level to become truly effective. Prohibition of conversion of wetlands without sufficient mitigation measures should become an integral part of land use plans adopted by city and county land use planning authorities.

Note: Some of the information in this section was provided by personal communication with:

B. Radovich, Environmental Services, California Department of Fish and Game, January 1988.

INTERSTATE COMPACTS

The reality that the flow of water is not confined within State borders requires California to enter into interstate agreements, known as compacts, with its neighboring States. California is a party to a number of these compacts, most of which establish interstate commissions to carry out the purposes of the compacts. These commissions have planning authority and may possess regulatory powers to achieve the goals of the compact.

Opportunity

By facilitating and promoting the development, conservation, and use of interstate waters, compacts may offer a consistent and coordinated approach towards maintaining instream flows on rivers crossing State boundaries.

Background

An interstate compact is a method by which States may adjust their conflicting claims to the flow of an interstate stream. California is a signatory to a number of interstate compacts related to water quantity and water quality, including the Klamath River Basin Compact, the Oregon-California Goose Lake Interstate Compact, the Colorado River Compact, and the Tahoe Regional Planning Compact. The State also has attempted, without success, to enter into

a compact with Nevada to apportion the waters of the Lake Tahoe Basin and the Carson, Truckee, and Walker River basins. These compacts may create interstate commissions that facilitate and promote the orderly, integrated, and comprehensive development and use of water resources, provide for equitable distribution of water, provide for pollution abatement and control, and protect and enhance existing economies. Some compacts, such as the Tahoe Regional Planning Compact, give the commissions regulatory and enforcement authority over activities and geographic areas specified in the compacts (Cal. Gov. Code § 66800). Although the roles of the compact commissions are generally advisory, they may be given regulatory and enforcement authority over specific geographic areas and activities, such as the Colorado River Compact Commission.

Example

California has entered into a river basin compact with the State of Oregon to facilitate and promote the orderly, integrated, and comprehensive development and use of the water resources of the Klamath River Basin (Cal. Water Code § 5900 et seq.). The commission created by the compact consists of three members: California, represented by the Department of Water Resources; Oregon, represented by the State Engineer of Oregon; and the Federal Government. The compact provides that appropriative rights for domestic and irrigation purposes within the Upper Klamath River Basin are superior to any other rights for purposes outside the Klamath River Basin by diversion in California. Although not specifically addressing any priorities for other water uses within the river basin, such as those associated with instream flows, this provision of the compact requires that water needs of the river basin be satisfied before any water is diverted out of the basin. Once the water passes the California-Oregon border, appropriations then become subject to provisions of the California Water Code, which provides for the protection of instream flows.

The Klamath River Basin Commission also has the power to investigate and recommend appropriate action to abate or prevent water pollution originating in Oregon and may order the responsible party to correct the pollution after conducting a hearing. This is an enforceable order in any Court of general jurisdiction in either State where the discharge is occurring, subject to review by the Court. By addressing water quality, the compact recognizes that sufficient water quantities are needed to maintain water quality.

Evaluation

The effectiveness of interstate compact commissions is limited both by the amount of regulatory authority granted them under the compact and the extent to which individual member States adopt the commission's prescriptions, guidelines, and recommendations. Commissions with regulatory authority are likely to have more impact on streamflow maintenance than those with merely advisory powers. The advisory commissions may be effective in mediating disputes that may arise over the use of interstate streams.

Management of the quality and quantity of instream flows along the entire reach of a river is an integral part of interstate compacts. The dependent relation between upstream and downstream water users and the hydrological

relation between adjacent watercourses requires a coordinated effort between neighboring States.

PRIVATE RIGHTS OF ACTION

Private citizens and public interest groups can bring causes of action to preserve instream flows and to abate the obstruction of streams. These rights of action are found in the common law, in statutes which provide for abatement of obstructions to the use of a stream, and in statutory provisions that provide "standing" to citizens to enforce compliance with environmental laws. The common law doctrine of the public trust responsibility, a doctrine that has undergone a significant amount of refinement in California and that provides opportunities to protect instream flows, is discussed in a separate section of this paper.

Opportunity

Private actions may be brought to abate nuisances that impair instream flows.

Background

Nuisances and the actions to abate them are of two types, public and private. A private nuisance "is a civil wrong based on disturbance of land" [Venturo v. Owens-Corning Fiberglas Corp., 22 Cal. App. 3d 116, 99 Cal. Rptr. 350 (1971)], including a "physical interference with the enjoyment of land" [Buchanan v. Los Angeles County Flood Control Dist., 56 Cal. App. 3d 757, 128 Cal. Rptr. 770 (1976)]. A public nuisance is "not dependent upon disturbance of rights in land but upon an interference with the rights of community at large" [Venturo v. Owens-Corning Fiberglas Corp.]. A public nuisance unreasonably interferes with rights common to the public by adversely affecting the health, safety, comfort, or convenience of the public. Remedies for nuisance actions include injunctive relief to remove the cause of the damage and, in the case of private nuisances, compensation for any reduction in land value.

Section 3479 of the Civil Code defines nuisance, in part, to be that which "unlawfully obstructs the free passage or use, in the customary manner, of any navigable lake, or river, bay stream, canal, or basin." California recognizes that if a stream is navigable, then a public right of navigation exists and any obstruction of a navigable stream is a public nuisance [People ex rel. Baker v. Mack, 19 Cal. App. 3d 1040, 97 Cal. Rptr. 448 (1971)].

Riparians are entitled to have waters come to them unpolluted, unless the pollution results from the reasonable use of the waters upstream [Albaugh v. Mt. Shasta Power Corp., 9 Cal.2d 751, 73 P.2d 217 (1937)]. An appropriator with superior rights in water as against other users is entitled to have the water preserved in its natural state of purity, and any material deterioration of the quality of the stream entitles the senior appropriator to injunctive relief [Wright v. Best, 19 Cal.2d 368, 121 P.2d 702 (1942)].

Example

In United States v. State Water Resources Control Board [182 Cal. App. 3d 82, 227 Cal. Rptr. 161 (1986)] the Court recognized that the common law in California entitled holders of water rights, either riparian or appropriative, to the natural flow of water undiminished in quality and that such holders "could always maintain a nuisance action against upstream appropriators" [182 Cal. App. 3d at 117-118]. In this case, the Board had adopted a water quality control plan for the Sacramento-San Joaquin Delta and Suisun Marsh that established new water quality standards for salinity control and for the protection of fish and wildlife in the delta and marsh. In Decision No. 1485, the Board modified the permits held by the Bureau and DWR to compel the operators of the CVP and SWP to curtail their use of water to permit a sufficient flow to resist saltwater intrusion.

While recognizing as it did that common law clearly affords water right-holders relief from pollution, the court found that there were "existing constitutional and legislative authorities" that would allow the Board to protect the quality of the delta waters from saltwater intrusion, without imposing the requirement solely on the project operators. The Board is required, under the Porter-Cologne Water Quality Control Act, to provide salinity control to "ensure the reasonable protection of beneficial uses" (Cal. Water Code § 13241). Therefore, to abate the public nuisance of saltwater intrusion, the court found that the Board, in hearings to be conducted to revise its Water Quality Control Plan, must take steps to ensure the protection of all beneficial uses and not solely to protect water rights.

Evaluation

Based on both common law and statutory provisions, nuisance actions serve as important means by which individual rights to the maintenance of instream flows can be protected. More importantly, the consideration of all beneficial uses by the Board when it considers how to abate public nuisances such as saltwater intrusion means that the Board will consider and protect instream flows.

THE PUBLIC TRUST DOCTRINE

by

George A. Gould

INTRODUCTION

The public trust doctrine expresses the concept that a State owns certain resources "in trust" for the public. Consequently, the State is not as free to deal with trust resources as it is to deal with other State property, such as an office building. Rather, the trust imposes duties and limitations on the State, particularly when it conveys trust property to private parties. The public trust doctrine has potential application in the protection of instream values because of the historic association of the doctrine with navigable waters.

NAVIGABLE WATERS

The concept of navigation serves several functions in American jurisprudence. The definition or criteria used to determine navigable waters varies depending on the function. Nevertheless, navigability is essentially a determination that waters are "public." The importance of navigable waters may be difficult to appreciate today. However, navigable waters were a principal means of commerce and travel prior to this century. Consequently, the policy of preserving them as open public highways is understandable in a historical context.

The Crown "owned" navigable waters under English common law. When the American colonies gained their independence from England, they succeeded to the Crown's ownership of these waters. Moreover, because new States are admitted to the Union on an "equal footing" with existing States, the United States Supreme Court held that new States owned navigable waters within their boundaries.

American federalism further complicates the law of navigable waters. Although the States "own" navigable waters, the Federal Government has paramount control over interstate navigable waters pursuant to its powers over commerce. This paramount control is sometimes called the "navigation servitude." While both the navigation servitude and the public trust doctrine have common roots, and to some extent address similar concerns, the two are not to be confused. Notably, the navigation servitude does not impose duties on the Federal Government or limit the uses that the Federal Government authorizes private parties to make of navigable waters. A detailed examination of the navigation servitude is beyond the scope of this discussion; it is mentioned principally for purposes of completeness.

ORIGINS OF THE PUBLIC TRUST DOCTRINE - THE ILLINOIS CENTRAL RAILROAD CASE

Legal scholars have traced the origins of the public trust doctrine to the English common law, which was greatly influenced by the Institutes of the Roman Emperor Justinian. However, there is great confusion and disagreement concerning the meaning of the public trust doctrine under English law. Whatever its meaning in England, Illinois Central Railroad v. State of Illinois [146 U.S. 387 (1892)], decided by the Supreme Court in 1892, is the archetype for the public trust doctrine in this country.

The stage for Illinois Central was set in 1869 by a grant from the Illinois Legislature to the Illinois Central Railroad of 1,000 acres of submerged lands in Lake Michigan, comprising almost the entire Chicago waterfront. Four years later the Legislature changed its mind and repealed the grant. As could be expected, the railroad asserted that the Legislature had no right to revoke the grant. The United States Supreme Court, however, upheld the revocation. The Court stated that the State's title to submerged lands was different in character from its title to other lands. The title to submerged lands, the Court said, was held "in trust for the people of the state that they may carry on commerce over them, and have liberty of fishing therein, freed from the obstruction or interference of private parties" (emphasis added).

Illinois Central makes it clear that a State is sometimes prohibited from conveying absolute title to the submerged beds of navigable waters. The underlined word emphasizes that the Court did not invalidate all conveyances of trust lands. The Court stated that grants of land for wharves, piers, docks, and other structures in aid of commerce, and grants that do not impair the public's interest in the remaining lands and waters, are valid.

The public trust doctrine aside, the Illinois Legislature could have reacquired title to the waterfront through the exercise of the power of eminent domain. However, the Constitution requires the payment of compensation when property is taken through eminent domain. By holding that the original grant to the railroad was revocable, the Court allowed the waterfront to be reacquired without the exercise of eminent domain and the attendant obligation to pay compensation. The avoidance of obligation to pay compensation remains one of the most significant and controversial features of the public trust doctrine.

STATE LAW OR FEDERAL LAW?

The source of the law applied in Illinois Central was never explained by the Court. The general tenor of the opinion suggests that the Court was applying Federal law. However, in a later case, Appleby v. City of New York [271 U.S. 364 (1926)], the Court stated that Illinois Central was based on Illinois law, although the Court did not identify any particular law. In any case, it is settled that the public trust doctrine is a question of State law. Thus, each State is free to reject the doctrine or accept it in whatever form the State chooses. As demonstrated below, California has been one of the leading States in the development of the doctrine.

THE PUBLIC TRUST DOCTRINE AND INSTREAM FLOWS

The public trust doctrine has many potential applications as a strategy for preserving instream flows.

1. The doctrine might form the basis for an argument that a State water rights agency is required to consider the effect of a proposed appropriation on instream values before granting a permit authorizing the appropriation. This strategy could be particularly important in a State that does not have a statute requiring the agency to consider the "public interest" when granting permits, or in a State where the "public interest" does not include consideration of environmental values.
2. As a variation on example 1, the doctrine might be used as the basis for requiring the adoption of alternatives that maximize the use of existing diversions before granting new appropriations. For example, a municipality might be required to engage in recycling and conservation before being permitted to make new appropriations.
3. The doctrine might be used to prevent the destruction of aquatic habitat. For example, a stream channelization project might be prohibited because it violates the public trust.
4. The doctrine could be used to terminate or limit existing water uses that are particularly harmful to instream values, as may be done in Mono Lake.
5. The doctrine might be used as the legal basis for legislation creating a statewide program of water conservation.

In assessing the effectiveness of the doctrine in the above situations or in other situations, the many limitations of the doctrine discussed above must be considered. For example, if a particular State applies the doctrine only to the beds of watercourses that are navigable under the Federal test, or if it limits the trust to traditional purposes, such as commerce, the doctrine may be of little use in protecting instream flows. Furthermore, in many jurisdictions it will be impossible to ascertain the state of the law because there are no decisions, or perhaps only a single limited decision, addressing the doctrine.

THE PUBLIC TRUST DOCTRINE IN CALIFORNIA

Historical Background

In People v. California Fish Co. [166 Cal. 576, 133 P. 79 (1913)], decided in 1913, the California Supreme Court held that tidelands are owned by the State in trust for public purposes. This holding was reaffirmed in 1980 [City of Berkeley v. Superior Court, 26 Cal.3d 515, 162 Cal.Rptr. 327, 606 P.2d 362 (1980)]. Other cases have determined that the public trust doctrine is not limited to tidelands but extends to the submerged beds of all navigable lakes and streams [State of California v. Superior Court (Lyon), 29 Cal.3d 210, 172

Cal. Rptr. 696, 625 P.2d 239 (1981)], including lands that are artificially submerged by damming the outlet of a natural lake [State of California v. Superior Court (Fogerty), 29 Cal.3d 240, 172 Cal.Rptr. 713, 625 P.2d 256 (1981)]. In addition, California has adopted a very liberal test for navigability--the "pleasure boat test"--which greatly increases the waters subject to the doctrine [People ex rel. Baker v. Mack, 19 Cal.App. 1040, 97 Cal.Rptr. 830 (1971)].

California has also been expansive in defining the "trust uses" that are protected by the doctrine. Historically, the doctrine protected the public's use of navigable waters for commercial navigation and fishing. However, the California Supreme Court has held that the doctrine is flexible enough to encompass changing public needs and has extended its protection to recreational boating and fishing, hunting, bathing, swimming, and to the preservation of lands "in their natural state, so that they may serve as ecological units for scientific study, as open space, and as environments which provide food and habitat for birds and marine life, and which favorably affect the scenery and climate of the area" [Marks v. Whitney, 6 Cal.3d 251, 259-260, 98 Cal.Rptr. 790, 491, P.2d 374 (1971)]. In short, the doctrine protects the aquatic environment itself.

Unlike Illinois Central, the California decisions have not held that a grant of trust resources is revocable. Rather, the grantee of trust property receives a title that is impressed with a "public trust servitude." The servitude prohibits use of the property in any manner not consistent with trust purposes. Because the servitude often prevents the grantee from making any valuable use of the property, it is sometimes said that the grantee of trust lands has only "bare legal title" [see State of California v. Superior Court (Lyon), 29 Cal. 3d 210, 172 Cal.Rptr. 696, 710, 625 P.2d 239 (1981) (J. Clark, concurring and dissenting)], or a "naked fee" [see Summa Corp. v. California ex rel. State Lands Com'n, 466 U.S. 198, 205 (1984)]. The trust servitude can be extinguished, as it was in the early grants of submerged lands in San Francisco Bay [see e.g., Eldridge v. Cowell, 4 Cal. 80 (1854)], only if the intent of the Legislature to extinguish it is express and extinguishment promotes trust goals [State of California v. Superior Court (Lyon), 29 Cal. 3d 210, 172 Cal. Rptr. 696, 625 P.2d 239 (1981)].

The Public Trust Doctrine And Water Rights - National Audubon Society v. Superior Court of Alpine County

Until recently, the public trust doctrine in California applied to submerged lands but not directly to the water itself. The doctrine provided some protection against the destruction of the aquatic environment resulting from dredging, filling, and other activities on trust lands. Nevertheless, until National Audubon Society v. Superior Court of Alpine County [33 Cal.3d 419, 189 Cal.Rptr. 346, 658 P.2d 709 (1983)], decided in 1983, the doctrine provided no protection against damage caused by diversions of water from streams, rivers, and lakes.

In Audubon, the plaintiffs argued that the diversion of water by Los Angeles from four of the five streams feeding Mono Lake was causing extensive environmental damage and was in violation of the public trust doctrine. Los

Angeles replied that it had a permit from the State of California that authorized the diversions. Los Angeles further argued that the public trust doctrine as applied to water rights had been completely "subsumed" by the California water rights statutes. The California Supreme Court disagreed, holding that water rights are subject to the public trust doctrine. Because the effect of the diversions on a trust resource, Mono Lake, had not been considered when the permits were issued in 1940, the court held that it was proper to consider them at this time.

In a departure from its decisions on submerged lands, the court refused to adopt the plaintiff's argument that all appropriations that harm trust uses are illegal. Noting the importance of the diversion of water to the population and economy of the State, the court held that the State could authorize diversions that harm trust uses. However, it said that the State has an "affirmative duty to take the public trust into account in the planning and allocation of water resources, and to protect public trust uses whenever feasible."

Audubon seems to establish a balancing test in which the uses of public trust resources are weighed along with economic and social factors. As such, the doctrine resembles longstanding statutes that require the California Water Resources Control Board to consider environmental effects when granting permits for the appropriation of water. However, the public trust doctrine differs from these statutes in two significant respects. First, according to the court, the public trust doctrine imposes on the State a duty of continuing supervision over the appropriation and use of water. Thus, the State is not confined by past allocations of water but has the power and responsibility to periodically reconsider existing allocations, including those allocations that were made after due consideration of their effect on trust purposes. Second, unlike statutes, the public trust doctrine cannot be repealed by the Legislature.

The court held that any person has standing to sue to protect trust uses and that both the courts and the Water Resources Control Board have jurisdiction to consider public trust claims. In addition, the Board apparently has the power to initiate public trust proceedings on its own. Citing Audubon, the Board recently entered an order to review diversions from the American River (State Water Resources Control Board, Resolution Approving Report of Referee for the Lower American Court Reference, Resolution No. 88-78 (July 16, 1988)).

The California Supreme Court did not decide that Los Angeles' diversions in the Mono Basin were unlawful or required modification in Audubon. In fact, the court stated that its decision did not dictate any particular allocation of water. The court simply held that the public trust doctrine provided grounds for a challenge to those diversions. Application of the court's pronouncements of California law was left to further proceedings. The litigation has since been stalled by procedural questions. The public trust doctrine has also been raised in several other suits but has produced no final results. Thus, five years after the decision, the revolutionary legal principles announced by the court have not yet been applied.

Unanswered Questions

The Audubon decision raises a number of questions. For example, what waters are subject to the doctrine? What water rights are subject to the doctrine? What protection does the doctrine provide for trust uses? Are projects that have been authorized by the Legislature exempt from the doctrine? What are the criteria for reconsideration where the effect on trust uses was previously considered? How will the trust burden be allocated among water users? The impact of the doctrine will be determined by the answers to the questions discussed briefly below.

Waters subject to the doctrine. The public trust doctrine has historically been associated with navigable waters. Audubon holds that the doctrine also applies to diversions from nonnavigable waters where there is an impact on trust uses in navigable waters. However, the court expressly refused to decide whether the doctrine would apply to diversions having no impact on navigable waters. Although a recent decision by the California Court of Appeals held that the doctrine did not apply in such a situation, a rehearing was granted by the court, thereby depriving the decision of legal authority. [Golden Feather Community Association v. Thermalito Irrigation District, 244 Cal.Rptr. 830 (Ct. App. 1988)]. One California trial court subjected diversions from a non-navigable stream to review by reasoning that there are protectable public trust values in the stream's fisheries [Dalgren v. Los Angeles, Superior Court, Mono County, Case No. 8902 (1985)].

The application of the doctrine to water stored in reservoirs is similarly in dispute. In the decision by the California Court of Appeals noted above, the court concluded that the doctrine only applied to natural waters and not to a reservoir. On the other hand, a report by the staff of the State Water Resources Control Board suggests that the doctrine might be applied to stored water to offset impacts of a project on trust uses (California Water Resources Control Board, Legal Report, Lower American River Reference (EDF v. EBMUD) (1988)). The ultimate resolution of this question could be of great importance because of the vast amount of water held in reservoirs in California.

Water rights subject to the doctrine. This question primarily concerns the application of the doctrine to riparian rights and to appropriative rights that were acquired before California adopted a permit system in 1914 ("pre-1914 rights"). Audubon involved permits for appropriation issued by the State. Thus, it might be argued that the doctrine is not applicable to riparian and pre-1914 rights which are not based on permits. However, the broad language of the decision suggests that all water rights are subject to the doctrine.

A related question involves the application of the doctrine to water rights held by Federal agencies. Principles of Federal supremacy undoubtedly exempt water rights based on Federal law, such as reserved rights, from the doctrine. On the other hand, rights acquired by Federal agencies pursuant to State law would seem to be subject to the doctrine. Confirming this, one decision has applied the doctrine to rights held by the Bureau of Reclamation [United States v. State Water Resources Control Board, 182 Cal.App.3d 82, 227 Cal. Rptr. 161 (Ct. App. 1986)]. However, limitations resulting from the public

trust doctrine could not completely frustrate a Federal reclamation project [California v. United States, 438 U.S. 645 (1978)].

Protection provided to trust uses. Audubon intends a process in which effects on trust uses are balanced against social and economic benefits from a particular appropriation. However, the opinion offers little guidance as to how that balance is to be struck. As could be expected, environmental groups and water users have expressed different views on this subject. The environmental groups have argued that trust uses are entitled to special procedural and substantive protections. For example, they have suggested that appropriators must "justify harm" to trust uses and that the Water Resources Control Board must adopt a "demonstrable bias" in favor of trust uses or accord trust values "greater weight" than other values. Conversely, appropriators have argued that the doctrine merely requires a reasonable balancing of economic, environmental, social, and technological factors and accords trust uses no special status.

Legislative exemption. California decisions indicate that the State Legislature can convey trust lands free of the trust servitude if the intent of the Legislature is clear and the disposition furthers trust purposes (see Dunning "The Significance of the California Public Trust Easement for California Water Rights Law" 14 U.C. Davis Law Review, 357, 369-374, 389-395). Drawing on this, it has been suggested that the Federal Central Valley Project, the State Water Project, and other projects that have received legislative approval might be exempt from the public trust doctrine. If exempt, the massive size of these projects would significantly reduce the impact of the doctrine.

Criteria for reconsideration. Audubon indicates that the State has the power to reconsider water allocation decisions even though those decisions were made after due consideration of their effect on the public trust. At the same time, established policies of judicial economy and finality probably prevent reconsideration of allocation decisions unless it can be shown that a change in circumstances has occurred. Assuming this criterion is adopted, it is far from obvious what events constitute a change in circumstances. Is evidence of a physical change in the water regime required? Is it sufficient to show that the facts or assumptions on which a prior decision was based are in error? Will evidence of a change in public attitudes suffice?

Allocation of the public trust burden. Audubon does not indicate how the "trust burden" will be allocated when a reduction or modification in water use is necessary to protect trust values in a particular situation. The burden might be allocated on the basis of temporal priority so that only the most junior water rights are terminated or modified. Alternatively, some "equitable" formula for sharing the burden among all water rights might be utilized. Either approach is likely to require complex proceedings with large numbers of parties.

The Public Trust Doctrine And Instream Values

The potential of the doctrine for the protection of instream values is obvious. First, the aquatic environment is one of the trust uses that the doctrine protects, and, as Audubon demonstrates, this includes instream values. Second, the doctrine can be applied to restrict or modify diversions to prevent the impairment of trust uses. More importantly, unlike most other strategies

that only operate against new appropriations of water, the public trust doctrine subjects "vested" water rights to review and adjustment. Thus, the doctrine does not simply prevent future harm to instream uses; rather, it can be used to correct past mistakes. The possibilities for use of the doctrine to prevent future harm and correct past mistakes are virtually unlimited. Almost any use of water that harms instream values can be challenged under the public trust doctrine. Third, the broad standing to raise public trust challenges recognized in Audubon further increases the utility of the doctrine. Fourth, the doctrine imposes duties on the State itself, making State agencies more responsive to the protection of instream values.

On the other hand, the doctrine has its limitations. Notably, the doctrine does not provide absolute protection against harms to trust uses caused by the diversion of water. The harm to trust uses, including instream values, must be balanced against social and economic benefits derived from the diversion of water. However the balance is ultimately struck, there will undoubtedly be cases in which the social and economic benefits are found to outweigh the harm to trust uses. In addition, the numerous questions raised by Audubon will require answers before the full impact of the doctrine can be assessed. The progress in answering these questions is likely to be excruciatingly slow.

The most significant use of the doctrine may be in the opportunities it presents in negotiations. While there is no certainty that the doctrine will protect instream values in a given case, there is also no certainty that it will not. Thus, water users, who face the uncertainties of the doctrine from the opposite side of the negotiating table, are likely to be more responsive to instream values than was previously the case, and in some instances it may be possible to strike a compromise.

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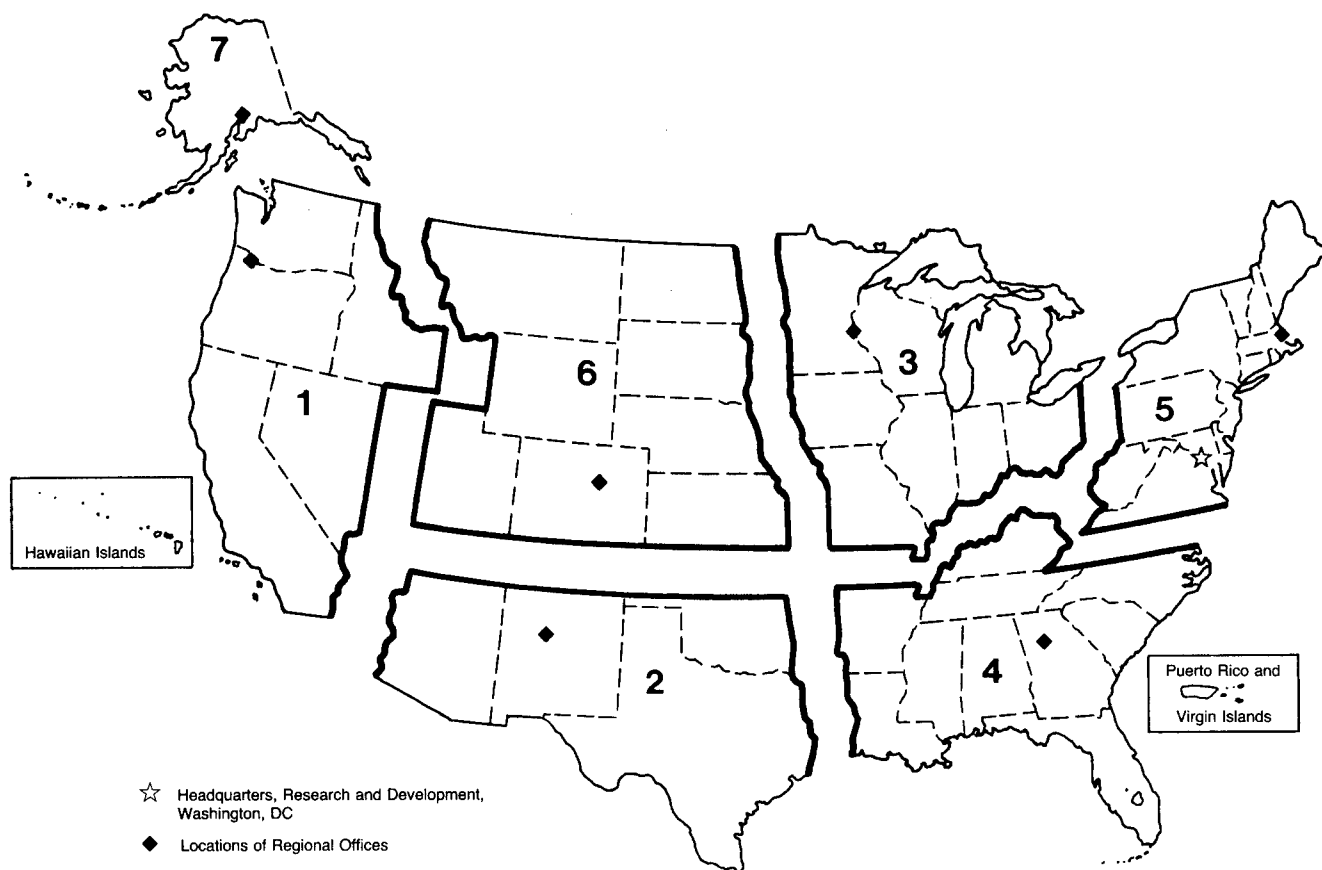
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